No. 9.

Field Book

of

W. L. Jepson

University of California,
Berkeley.

-1901-

Berkeley, Cal. 1901.

— Lewisia cotyledon Rob.
Examination of material from near Marble Mt., Chandler 1594, June 24, 1901.

Count of parts

Flower	Petals	Stamens	Valves of Cap.
No. 1.	9	5	
No. 2.	9	7	3
No. 3.	9	9	3
No. 4.	9	7	3
No. 5.	8	8	
No. 5.	8	8	

King City, June 14, 1901

King City is a forlorn hole. It is a typical American or rather Californian grain town. It has two hotels. But what is the good of choice when "the apples are rotten"? However, the Vandons, which is further from the depot is the better of the two. But the ride to John is most beautiful; one goes up a narrow valley which becomes narrower and narrower and ascends to a cañon leading over a summit. The grade down to John is long, easy & beautiful, the horses going at a spanking trot but not pulling a pound. The road fine, the oak-covered hills and little valleys

– over –

Jolon, June 14.

Monterey Co., 970 ft.

No. 1623. Chorizanthe ? staticoides ? Flowers red (pink class); inner perianth segments much smaller than the outer, about or rather less than ½ the size - Pico Rancho San Miguelita

cont. from p. 3.

succeeding each other in most picturesque way. The hills are somewhat diversified with Digger Pines. At Jolon I stopped at Duttons Hotel, an old-fashioned wayside inn, solid and large comfortable-looking structure. But Fiddalls Hotel at the end of the street serves better meals, Mr. Davy says. We shall stop there when we go back. Jolon is 20 miles from King City. There is a daily stage exc. Sun.

~~Pico~~ San Miguelita Rancho, June 15.

c. 1100 ft.

To this ranch (see p. 288). is 10 miles. I came by the ranch wagon. The ranch house is most prettily situated among the hills with valley lying about, the country well-covered with oak and other trees

No. 1624. ~~Godetia quadrivulnera~~ Clarkia speciosa ssp. speciosa = G. parviflora Jepson. Corolla large, crimson. Buds very large and 4-sided. Ovary evidently ribbed. Large flowered and very beautiful plant. Stigmas very different from those of 1626 as also the tips of the buds.

No. 1625. Godetia. Three plants; one with narrow capsules, the other two with short oblong but thick capsules, and also with a few early narrow capsules. Upper leaves conduplicate on all three, - all with small crimson flowers. - Hills, Pico Rancho.

San Miguelito Rancho,

c. 1200 ft. near Jolon.

Clarkia purpurea ssp. quadrivulnera ~~Spach~~

No. 1626. ~~Godetia~~ This is to be distinguished from #1624 by its smaller flowers (1/2 as large and plen of a very light pink or light Sidalcea color. The buds in #1626 are very small and one might say that they are hard to find; the buds in #1624 are very large, conspicuous and 4-sided. The buds of #1626 are not obviously or at all 4-sided. The trouble in distinguishing comes from #1625 found with them. All of them have 8-ribbed capsules. There is considerable variation as to hairiness of capsule but this is not, I think, significant as to distinction of species.

Monterey Co.

June 15, 1901.

- Clarkia elegans, m fl.
- Rubus vitifolius
- Rosa californica
- Xanthium spinosum
- Verbena prostrata
- Lupinus densiflorus
- Daucus pusillus. The old gentleman, Sutton, had a box of this, dried, ready for an emergency. He believes absolutely in this Rattlesnake Weed and says he has effected many cures. The plant may simply be chewed and the juice swallowed and also applied poultice-like to the wound, or made into a tea and also into a poultice.
- Snowberry, the common sp.
- Eriogonum pendulifolium Ben.

San Miguelito Rancho

c. 1200 ft. Near Johnsonville, Monterey Co.

No. 1627. Navarretia atractyloides H. & A. Fls. pink or lavender.

No. 1628. Cuscuta, on Lotus glaber. ↑ californica Choisy papillosa

No. 1629. Gilia (of Virgata sect.) lutea Stand. Fls. yellow. Hugelia lutea Bth. Eriastrum luteum

No. 1630. Navarretia mitracarpa Greene. Globose plants.

No. 1631. Chorizanthe palmeri Wats.

No. 1632. Madia gracilis (Smith) Keck Greene.

No. 1633. Allocarya californica ? cf. curtisii

No. 1634. Trifolium vallicola Jepson. var. obtusiflorum Hook.

No. 1635. Lupinus bicolor Lindl.

No. 1636. Clarkia ~~speciosa~~ ~~affinis~~ ~~affinis~~ Gracilis, on dry valley soil, diffuse or reclining.

No. 1636a. Carex subfusca W. Boott. Det. K.K.M.

No. 1637. Oenothera strigulosa T. & G.

No. 1638. Nasturtium = Roripa radicula curvisiliqua Greene.

San Antonio River Valley, Santa Lucia Mts.

June 15, 1901.

breviflorus Lindl.

No. 1639. Pentstemon. Stems unbranched (below the inflorescence), that is, stems of the season; stems of previous season sometimes woody and persistent for 3 or 4 ft, the stems of the season from these or from the woody base. Corolla white with pinkish markings; tube short. Limb deeply 2-lipped; upper lip oblong, notched at apex, erect and incurved above, hairy on outside above, the stamens and style ascending under this; three lobes of lower lip oblong, equal, spreading; stamens dilated at base abruptly, the free portion of each one approximating the others in centre of tube so as

San Miguelito Rancho,

c. 1200 ft. near Jolon.

to close tube; dilation mostly adnate.

Greene. Rel: A.L.G.

No. 1640. Mimetanthe pilosa (Benth.)

No. 1641. ~~Chorizanthe~~ Lastarriaea chilensis Remy

No. 1642. ~~Gilia~~ Linanthus liniflorus. pharmaceoides Bth. = G. liniflora Bth.

No. 1643. ~~Blepharipappus~~ Layia glandulosa (Hook.) H. & A.

Rays white, 5 & 3, 3 or 2 - notched.

No. 1644. Arenaria douglasii Fenzl.

No. 1645. Brodiaea minor Wats. Anthers 3, meeting in centre and closing tube; Staminodia purple. (= B. synandra Jepson).

No. 1646. Oenothera micrantha Hornem.

No. 1647. Monardella. Annual. M. breweri Gray. Not yet well out.

No. 1648. ~~Uropappus~~ Linearifolior = C. corollata

No. 1649. Cryptantha decipiens Hel. var. corollata Jtn.

Monterey Co.

June 15, 1901.

No. 1650. Euphorbia ~~maculata L.~~ serpyllifolia Pers. var. hirtula

— The trail to the Los Burros Mine starts up the ridge to the southwest of the house. The ranch house is a comfortable square structure with cement walls, porches on the 4 sides, cement floors to the porches, a bath house just to the rear at one side and similar conveniences. The house keeper is also the cook. The ranch men have their meals in the dining room, while we eat at a little table in the office and sitting room with Mr. Rutledge the superintendent. It is very pleasant to sit in a comfortable chair on the porch in the evening after a days work and rest our eyes on the hills and valleys

San Miguelito Rancho.

c. 1200 ft. near Jolon

Mr. Dutton of Dutton's Hotel at Jolon says that in the old days he once drove from San Diego to Jolon, the journey taking 23 days. It took a long time in those years to get from northern California to Southern California.

- The ranch to the south of this one is called Piojo Rancho and belongs also to the New-Halls.

- We can see Pico Blanco from the ranch house at San Miguelito, but not Santa Lucia Peak which is hidden behind a range of hills.

= San Antonio River of U. S. Topographic Map, Junipero Serra Quadrangle.

San Antonio Creek, June 16.

Monterey Co.

- Douglas Oak, San Antonio River, circumference 10 ft 4 in. at 4 ft. from ground.
- Bloomeria aurea, abundant in wooded hillsides.
- Lonicera ~~involucrata~~ hispidula var. subspicata. Shrub 3 or 4 or 5 ft. high or climbing oaks or Rhamnus crocea.
- Rhamnus crocea, var. ilicifolia. Shrub, 5 to 8 ft. high.
- Ceanothus cuneatus, shrub forms suggesting those of Sierra foothills.
- Asclepias eriocarpa Benth. Common
- Lichen on oaks, used to feed cattle in the dry years acc. to Mr. Davy.
- Asclepias eriocarpa poisons cattle in Mendocino Co. acc. to Mr. Davy.
- Populus trichocarpa.
- Prunus demissa. cf. no. 13,842. Exact loc. not recorded.

Abila Ranch, June 16

= Avila ranch on Salsipuedes Creek, tributary San Antonio River.

- Madrona. Rhamnus californica, not noticed around San Miguelito. Coulter Pine. Valley Oak.

- C. Abila, Jolon, Monterey Co. California.

- Acer macrophyllum. Rhamnus crocea ilicifolia. Sycamore

- We rested for the night at the Abila Ranch. The house is the old-fashioned Mexican adobe. We were served a very appetizing supper by the fair-haired Senora. The Senor was a fine-looking young fellow. (blue-eyed) Evidently neither were Mexicans in the least, but all Spanish. The little boys might have passed for young Americans. Venison was on the bill of fare.

San Antonio Trail, not called correctly

Arroyo Hondo Trail, June 17.

= Grande. see p. 32.

- Pinus Coulteri, Madrona, Rhamnus californicus, Rubus parviflorus, Adenostoma fasciculata H. & A., Arctostaphylos tomentosa, Ceanothus papillosus (fastigiata) leaves & branches make it look like a spruce or cypress at a little distance sometimes, Alnus (Berkeley type), Rubus vitifolius, Quercus chrysolepis, Antirrhinum virga (raising its spikes above the chamisal, but a few individuals seen) Umbellularia, Live Oak, Pickeringia, montana, Sugar Pine, Yucca Whipplei. Dendromecon rigidum, Eriogonum fasciculatum, Ceanothus divergens

= A. glandulosum. cf. 24:118.

The foliage on the Valley & Douglas Oaks on the San Antonio was killed by an frost acc. to Mr. Abila. This fact accounts for the peculiar young, stubby growth that we noticed.

San Antonio Trail!
not called correctly

Arroyo Hondo Trail

Palo Incensio – Abies venusta – we first saw trees on the Eastern side of Pico Blanco, hanging on by their teeth and hundreds and perhaps thousands racing down into the cañon below. This was before we reached the summit and began to go down the La Honda trail. On the western side they covered the cañon wall pretty well on the north side and reached up to the very summit of Pico Blanco. But in hollows and nooks on the south slope of the ridge to the north there were many trees here and there. One tree near the bottom of the cañon measures 9 ft 4 in. (or 4 ft.) and another 3 ft. 4 in., in circumference.

June 17, 1901

- Sugar Pine forest extends toward summit of La Honda trail. Trees 5 ft. through and 100 ft. high or less. Noted Incense Cedar also.
- Yellow Pine noticed only on western slope. Sugar Pine common on western slope too.

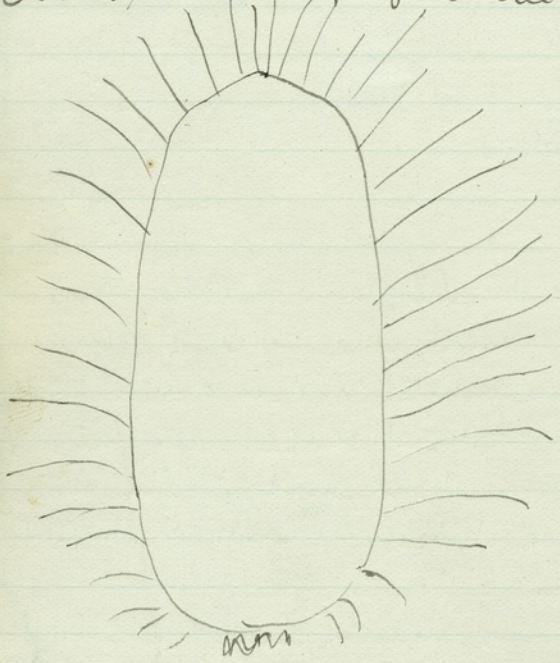
Below the Sugar Pine there is a considerable zone of Yellow Pine. Coulter Pine is associated on the west slope with the Sugar Pine, but I did not notice it as low down as the Yellow Pine.

It is a pleasing thing to see the Madrona again, scattered through the forest. We saw several very fine trees.

Arroyo Hondo Trail

"grande = see p. 32

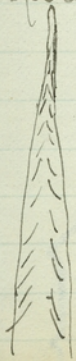
The cones of Palo Incensio hang in clusters at the top of the tree. " p. 25.



The cones look so much like burs that some of the local

June 17, 1901.

people call them burs. Otherwise they are "hedgehogs". The clusters of cones in the top of the tree are very noticeable - they hang so densely. The cones are borne only in the very tip-top, and are of course borne erect on the branches, but their weight bears down the branches so that they seem to hang. The trees are very slender and shaped like a church-spire but the top is very attenuate. They are striking trees so that one notices them at considerable distances. I should readily say that there were thousands of trees to be seen from the various points on the Arroyo Hondo Trail.



San Antonio Trail!
not called correctly

Arroyo Hondo Trail to

- Antirrhinum virga - seen near Dana's. = A. glandulosum Lindl! cf. 24:118.
- In a wet swale on the mountain side, near Dana's, I noticed a small forest of Sycamore, tall slender unbranched trees 70 to 90 ft. high, the trunks very straight and looking for all the world like alder trunks. I took it at first to be an Alder cluster, so closely did the Sycamores look like Alders. They occupied about an acre.
- Diplacus glutinosus at Dana's. In the Rancho Miguelito region Diplacus longiflorus is the only form
- Salix crassifolius Lem. Greene. Lower nodes with pines.

Lucia (Davis Ranch), June 17.

- The very slender tops or attenuations so to speak of the Lucia fir appealed to me strongly. At a distance it was like a lead pencil or awl point but nearer it was plain that a man might sconce himself in the top. I saw trees 70 & 80 ft high and noted one that was 100 ft. high.
- Near the summit there was considerable of the common Sierra Cherry the species with umbellate flowers. = Prunus emarginata
- Eriodictyon tomentosum - on San Antonio Creek.
- Hercocarpus parvifolius Nutt.
- Lucia is a postoffice. Mail goes out once a week to Jolon, 35 miles.
- There are about twenty Indian families in a reservation near Santa Lucia Peak. They bought the land from Uncle Sam.

San Antonio Trail!
not called correctly

Arroyo Hondo Trail

- Dana says his cattle like green Treabot very much; of course when it is mature they let it alone, but in the Fall after the first rains they eat it freely. - Centaurea Melitensis
- During the dry years, the cattle at San Ynguelito were Reptalin on the lichen of the Oaks, the branches or limbs being cut down.
- Dani is the proper spelling. He is a devout Mormon.

No. 1651. Mimulus subsecundus Gray. Det: A.L.C. Common on steep slopes in the hills of the Upper ~~Nacimiento~~ San Antonio River, c. 1600 ft. cervinus Kell.

No. 1652. Lupinus Lavender flowers. c. 1600 ft. Upper San Antonio River.

No. 1653. Lupinus albifrons see p. 28a. Blue fl. Under Sugar Pines on high mts. near Twin Peak c. 4000 ft.

Monterey Co.

to Lucia. June 17.

- Oso Berry (Osmaronia cerasiformis Greene), Spiraea arcaefolia, Ceanothus thyrsiflorus, Toyon, Redwoods in bottom of deep sharp cañons.
- Ceanothus thyrsiflorus, 17 ft. h. & sub-arborous

No.

- Oxalis Oregana. very pale fls.
- Iridalis latifolia, in fl.

No. 1654. Lotus argophyllus Greene. Very showy; yellow fls. Stems trailing, making a broad plant. Summit of San Antonio Trail to coast. 4100 ft.

No. 1655. Delphinium, Upper San Antonio Creek. Hesperium Gray.

No. 1656. Mimulus Bolanderi. Hills, Upper San Antonio Creek. c. 1600 ft.

San Antonio Trail!
not called correctly

Arroyo Hondo Trail

No. 1657. Gilia, Fls. pink - Hills, upper San Antonio creek. G. tenuiflora Bth.

No. 1658. Lotus. San Antonio Trail, near Twin Peak. L. strigosus var. purtellus ~~Greene~~ Ottley.

No. 1659. Cirsium californicum. Fls. pink or pinkish white. San Antonio Trail, west slope of mountains.

No. 1660. Sugar Pine. San Antonio trail, near summit. Pinus lambertiana Dougl.

No. 1661. Asclepias. Leaves undate. Hoods purple, hornless, cleft 2/3 the way down the back. A. californica Greene.

No. 1662. Arabis, cleft of rocky cliffs. San Antonio trail, west slope. Brewerii Wats.

No. 1663. Streptanthus ~~orbicularis~~? with preceding = S. tortuosus Kell!

No. 1664. Eriogonum. High slopes, E. saxatilis, San Antonio trail.

Monterey Co.

to Lucia. June 17.

No. 1665. Blepharizanthe membranacea. Steep slopes in the mountains, west slope. San Antonio Trail.

No. 1666. Lotus procumbens. Dry hills near Mission San Antonio. ~~leucophyllus Greene~~.

- There are two names for the cañon on San Antonio Trail: Canada Honda and Arroyo Grande. Honda means a very deep and steep place. The second name is translated by the Americans into "Big Creek" which term is used also.

- A man at John says there are no Incense Trees between Canada Honda and San Carpojo cañon.

- John is an Indian name, meaning a hot place.

No. 1666 a. Lupinus cervinus Kell. Near Lucia.

Lucia to Mill creek

No. 1667. Lotus benthami Greene. Fls red, changing to whitish. Bush-like, 3 ft. high and broad, or smaller. - Near Lucia

No. 1668. Heuchera chlorocarpa Fl. & M. var. hemisphaerica Petals very narrow linear, acute. Petals 5, but I found one plant showing only 2, 3, (or rarely 4) petals. Calyx very hispid with whitish hairs, almost suggesting a Galium bur. - Near Lucia. See p. 28a.

No. 1669. Oxalis. - Near Lucia. O. corniculata L.

No. 1670. Boykinia. Very handsome plant along rocky mountain streams. - Near Lucia. Also seen on San Antonio Trail. B. elata Greene.

No. 1671. Salix ~~Sitchensis~~ coulteri and. var. - Lucia.

No. 1672. Stachys rhamnissmia Bth. - "

No. 1673. Epipactis gigantea Dougl. See next p. 27 - Lucia.

No. 1674. Ellisia. - Near Lime Kiln Creek. Only one-ninth of plant taken! See p. 28a.

June 18, 1901

- From Lucia the trail leads down into a beautiful gorge, as beautiful as I ever saw in any part of the state. The very steep walls below support good-sized redwoods - as much as 5 or 6 ft. diam - and the bottom of the cañon is filled up with characteristic Coast Range plants of the Redwood Region - acer macrophyllum, Rubus vitifolius, Salix Sitchensis

- Epipactis gigantea Dougl. no. 1673. Sepals lower sepals oblique. Petals ovate, acute. Lip deeply concave, the sides projected up above the insertion of the lobe which is hinged as it were with two very strong elevations on each side of the lobe and a lengthwise depression between. The concavity of the lip has some short glandular processes. Color brownish

Santa Lucia Mts

June 18, 1901.

Lucia to Mill Creek

- Scrophularia Calif. 11 ft. high! - At Lime Kiln.
- Aquilegia truncata
- Berberis nervosa, Rush, Eriophyllum staechadifolium, Arabis Californica, Rubus parviflorus, Vicia gigantea, Gaultheria shallon, Cricus edulis, Lonicera hispidula, Sycamore with the Redwood in the canon, Lupinus albifrons.
- Measured a redwood at 4 ft. from ground that had a circumference of 23 ft. 10 in. It was badly burned on one side. This tree was in the canon that we took up from the ocean - and not so far from the new sawmill on Mill Creek.

No.

- The Heuchera collected at Lucia [no. 1668], see p. 26 ante, is really H. pilosella Rydb. and not H. pilosissima T. & M. at all. In Fl. Cal. I refer H. pilosella to H. maxima Greene.
- Cont. from p. 22. no. 1653. Lupinus albifrons Eth.
- Vicia americana Muhl. var. truncata Brew.
- Cont. from p. 167. No. 1830.
- Eucrypta chrysanthemifolia Greene. Cont. from p. 26, no. 1674.

— Cont. from p. 5. San Miguelito Ranch house must be on the old San Miguelito Grant, and therefore on or near the Nacimiento River westerly from Tolon.
— Sans Mill. The name Sans is family — 12-16-40. on the Cape San Martin Quadrangle near the Nacimiento School, Nacimiento River Valley.

June 18, 1901

— The cañons and mountain tops are filled up and covered with fog, so that as we travel along the trail on the sides of the cañons (which are very narrow with steep walls) the distances suggest fearful depths below. It was really very singular, the height of the ridges and distances below.

At Gomez's Ranch we took the wrong trail and got away off in the mountains making a circuit towards Davis. At last I suggested to Mr. Davy that he mark north on the ground. His compass then showed that he was off 180° and so, 90°. We went back to Gomez and got the right trail to Sans' Mill arriving in the dark.

Sans Mill, Mill Creek.

(cf. Cape San Martin quadrangle where Sans Mill is indicated on map but not named.) see p. 288.

- Abies venusta, a few trees in the mountains near Cambria. Some trees in Villa Cañon. (Brewer-Shank). Villa got logs out of there 40 years ago. San Carpojo Cañon, plenty trees, this between the two localities noted above. Cambria most southern locality.

"Talk about sticky devils, said Olmstead, the cones are them"!

There are no firs on Santa Lucia Peak. There are Sugar Pines on the Peak. (Bristle-cone)

There are firs near San Burros mines. There about a dozen trees a mile and a half from Sans Mill.

Olmstead says trees were taken to Bribbi Garden in San Luis.

June 18, 1901

- Sans Mill on Mill Creek - beautiful white honey - "bees work on "Blue Lilac", & Maple!" [for our breakfast (Maple = Acer. mac)

- Trail to San Carpojo starts in about opposite Prijo Ranch. Mr. Olmsteffd thinks that this was the place where the priests or indians got the resin for burning incuse in the churches.

- The first redwoods, coming north along coast, are in a gulch this side of Salmon Creek and a little further up the mountain one comes to a spring with buckeyes about it, Buckeye Camp, one sees a few more down in a gulch. No redwoods in San Luis Co. acc. to Capt. Olmsted. No Abies venusta in San Luis Co. Little hills, down there, says Capt. "you would know they were hills after these about here."

Sans Mill, Mill Creek.

- Spruce Creek (with Douglas Spruce on it), then Alder Creek, then Villa Creek, in order going south.
- Hubble, name of a man who has a little place on the coast not far from Lime Kiln Creek.
- The notes on this and the two pages preceding were taken from Captain Olmstead at Sans Mill. He worked as a guide many years with one of the coast Survey parties. The other two men here were the Sans Brothers.
- The cañon marked Arroyo Hondo on the pages preceding should read Arroyo Grande. The Americans call it Big Creek. The point

June 19, 1901.

marked Pico Blanco should read Twin Peaks. Pico Blanco proper is up on the Sur.

[See p. 40.
No. 1689. Antirrhinum glandulosum Lindl. Cut 8" at ground. Upper lip parted into 2 lobes, the lobes turned backwards so as to be Conduplicate. Palate very prominent, forming a great inverted sac, the 3 lobes turned downward in anthesis. Bath frequent above Sans Mill.]

[No. 1688. See p. 40. Madia. Rays 14 or 15, clear yellow, not marked. With preceding
- Yucca Whipplei at Sans Mill a few feet above Redwood. See p. 40.]
- The Redwood extends to within about 3 or 4 yards (air line) of the summit, as observed on road from Sans Mill to San Miguelito.

Sans Mill, Mill Creek.

- Ceanothus thyrsiflorus - often 15 to 20 ft., but never truly arborescent acc. to my idea.
- At the Mill they cut Redwood chiefly. Sans had a pile of Quercus chrysolepis slabs 5 or 6 ft. long and 10 or 12 in. wide, or perhaps 14 in. He says there is no better wood for wagon wheels. It is very tough and hard and will not shrink, so that when a tire is set, it stays set and does not have to be reset every summer as commonly with wheels in this dry climate. It is used for single trees on acct of its good qualities. Sans says he has cut trunks of 5 or 6 ft. diam.

June 19, 1901.

- Tan Oak he cuts a little. It is, acc to Sans, very tough and durable. It makes splendid single trees because of the "spring". They give; and go right back. A horse starting a heavy load, where all the horses do not move together, will easily break an ordinary single tree. But these single trees are good only for one or two years. Then they lose their life, become "brash" and the second or third year they snap. This Tan Oak is commonly used for "evners" on a harvester where there are from 20 to 34 horses used. This shows that it must have considerable or even very great strength
- Diplacus longiflorus occurs just to the west of the summit on road to Sans's mill & runs in Mineralitos and all down east side.

Sans Mill to San
(Mill Creek)

- San Oak occurs on east slope
- Have seen no Chinquapin or Oregon Ash on this trip.
- Sens says that San Oak is used also for tingues and carpling poles in wagons. Quercus Chrysolepis he calls Valparaiso. He also knew it under the name of Maul Oak as it is so commonly used for making mauls. It is a very heavy wood.
- Redwoods near Sans Mill are 150 ft. high. I saw stumps 10 ft in diameter at 4 or 5 ft.
- Collinsia bicolor very variable in color, pale lavender or pink and whitish on both lips.

- Amelanchier alnifolia Nutt. var. subintegra Jepson. See p. 40, no. 1695.

Miguelito Rancho, June 19.
(near Jolon)

- Apocynum cannabinum - Nacimiento R.
- Salvia spathacea (Greene) - " "
- Lagophylla congesta - low dry hills - typical!! - Nacimiento River
- Castilleia stenantha - " "
- Datisca glomerata B.&W. " "
- Lagophylla ramosissima " " with congesta!

- There are many corrections in geog. nomenclature of this country to be made as a result of many days repeated questioning on the trail and at the ranches. See several pages ahead for revised list of running heads

- Ceanothus cuneatus, common in the hills on the San Miguelito Rancho and about Jolon, especially in the lower parts of the hills or swales or miniature valleys, usually as separate bushes rather than thickets.

Santa Lucia Mts.

Sans Mill to San Miguel (Mill Creek)

No. 1675. Phacelia hispida (= P. hoasaefolia Gray). Plant 3½ ft. h. with widespreading branches from base. - Coast trail, near Lime Kiln Creek.

No. 1676. Cotyledon (= Dudleya caespitosa laxa Brew. & Wats.). Plants a beautiful red, the whole plant! But some plants with very little red, although most individuals on the coast are red (Mr. Davy also noted the same thing in the Ventana). - Coast trail near Lime Kiln Creek.

No. 1677. Lotus (salsuginosus Greene. with preceding).

No. 1678. Rhamnus crocea typica C.B. Wolf. " " Decumbent.

No. 1679. Spanish Needle. " "

No. 1680. Salvia (? mellifera Greene). Upper lip emarginate. Lower lip 3-lobed, the middle one produced, broad, deeply notched. Coast Trail, near Lime Kiln Creek. S. mellifera. (? callosa).

Monterey Co.

Lito Rancho, June 19, 1901

(near Jolon)

No. 1681. Ribes (magnificum? Hyatt ex Coville). Plants 12 to 14 ft. high. Canes often 10 ft. high. Fruit very agreeable and fruity. We ate a good deal of it. - Coast Trail, near Lime Kiln Creek.

No. 1682. Convolvulus (occidentalis Gray var. cyclostegius Jepson. Convolvulus occidentalis Gray var. pinkish areas - these longitudinal with and corresponding to the folds. Abundant. Very showy. Climbing over bushes and covering the rank vegetation generally. - Coast Trail, near Lime Kiln Creek.

No. 1683. Arenaria. Fls. white. Very delicate and pretty. Common on the mountain side above Sans Mill. A. luciana Jepson n. sp.

No. 1684. Yucca whipplei (Torr. Small globose fruits). Near Sans Mill.

No. 1685. Clarkia (bottae Spach. Shade of Sidalcea-color). Mountains above Sans Mill. Also west of summit.

Nacimiento River

(about west of Jolon).

(= D. calycosa (Rydb.) — imbricata Greene.

No. 1686. Phacelia. With preceding.

No. 1687. ~~Scrophulariaceae~~ Marah fabacea (Nand) Greene. Fruits globose, 4-seeded. - Mt. side above Sans Mill.

No. 1688. Madia elegans Don ex Lindl.

- Range 14 or 15. See note preceding, p. 33

No. 1689. Antirrhinum virga. " " " p. 33

No. 1690. Eriogonum ~~Mt. side above Sans Mill.~~ californicum

No. 1691. Diplacus longiflorus. Wagon road from Sans Mill to Nacimiento River, east of summit. (M. leptanthus (Nutt.) Grant. See note prec.

No. 1692. Alnus rhombifolia Nutt. Trunks similar to those of Berkeley trees. - Upper Nacimiento River

No. 1693. Osmorrhiza. Upper Nacimiento River. brachypoda Torr.

No. 1694. Cornus. Upper Nacimiento River. glabrata Bth.

No. 1695. Amelanchier. see p. 36. 14 ft. " "

No. 1696. Thalictrum polycarpum. Very glaucous. 5 ft. tall. Lowest and largest leaf not taken. Hy

Monterey Co.

June 19, 1901.

leaf taken was about at middle - Nacimiento River.

No. 1697. Salvia Sonomensis. greene. Matting a plot 5 ft. broad in bottom of Nacimiento River.

No. 1698. Hypericum formosum var. Scouleri. Nacimiento River bottom. Coulter

No. 1699. Phacelia. ramosissima Dougl. Nacimiento R. bottom.

No. 1700. Asclepias. Hoods pink, cleft 1/3 the way down. The horns scarcely or not at all exserted. A. Eriocarpa Benth.

No. 1701. Abies bracteata Nutt. Twin Peaks.

Santa Lucia Peak - trail up from Kirks- one place - 200 yds - brush over trail - horses cannot go it - man can go under. Spring on summit about 1/4 mile from top north. Great place. Can see Sierras in winter - This from a boy in Jolon. He lives at base of Santa Lucia. Peter Kerns.

Jolon

-Best way to go up Santa Lucia, Peak for me would be to walk up from Kirk's It would take about 4 hours. The altitude of Santa Lucia is 6000.

-Some call Lucia Peaks by the name of Silver Peak while the mexicans call it Pico Blanco, but the true Pico Blanco is up in the Sur country. Peter Kerno, boy 15 years old, knows the country very thoroughly.

-Mission San Antonio- last priest told Mr. E.S. Williams Sixteen years ago that he regretted that nothing was being done for the mission. He pointed to a hole in the roof and remarked: Unless that break is fixed the next winter storms will increase the hole and soon the whole roof will fall in and the Mission will be in ruins.

The stage-driver from Jolon to King City calls Eriogonum nudum (see spm. in Hb. U.S.) Tibinaghea.

June 20.

I cannot repair it for I am a poor priest and have no money. My parishioners are exceedingly poor,- poor Indians mostly. A year after this the priest died, was buried in the church, and the ruins now cover his grave. The priest said that he had frequently appealed to his Bishop, but that the Bishop would do nothing. Bishop Nichols, Episcopalian, visited the Mission San Antonio and was much excited in its behalf and said that he would appeal to his friend Bishop Montgomery (of the Catholic Church).

From Jolon on to King City was a delightful ride once more. along the roadside was an abundance (comparatively speaking) of Cardnus vernus var. Greenei more than I ever saw in one place elsewhere. It is a very handsome plant, strikingly handsome! Away to the east of King City, on the summits of the mountains one can see pines. What are they? Yellow Pines?

Santa Lucia Mountains.

Revision of Locality Names.

San Antonio Creek and Abilah Ranch via Milpitas School - June 16.

Cone Peak (Silver Peak, Twin Peaks) and Canada ~~Honda~~ (Big Creek. Arroyo Grande). - June 17

Davis Ranch, Lime Kiln Creek via Hubbels and the Gomez Ranch to Sans Mill on Mill Creek - June 18

Wagon Road from Sans Mill to Nacimiento River and San Miguelitos Ranch - June 19.

Santa Lucia Mountains.

Revision of Locality Names.

The trail from Abilahs to the coast is called the San Antonio Trail.

From Davis to the mouth of Mill Creek and north and south either way is the Coast Trail.

Rockland Landing is at the mouth of Lime Kiln Creek.

"San Miguel Cañon" of Sargent's Libra under Abies venusta is Canada de los Potranchos (mare colts). The McGill Ranch is in that region. Wherefore the mistake!

Mission San Antonio

List of Friars.

Antonio Siljan. (1770-1813) See S. F. Bulletin, Sept. 10, 1864.
Florencio Ibanez.
Miguel Pieras
Bicente de Santa Maria.
Diego Garcia.
Benito Catalan
Jose Manuel de Martiarena.
Bartolome Gilli
Jose de la Cruz Espi
Marcelino Coprio
Francisco Puyol y Puyol.
Pedro de San Jose Estevan
Lorenzo Merelo.
Jacinto Lopez.
Juan Bautista Sancho Lliteras
Pedro Cabot.
Buenaventura Fortuni

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Vicente Francisco Sarria
Josede Jesus Maria Gutierrez.
Jesus Maria Vasques del Mercedo.
Dorotes Ambris. (1841-1890.

Mission San Antonio founded
July 14, 1771.

- Eriogonum nudum Bth. var. Jolon, June, 1901. See no. 20,994.

- Lonicera subspicata - common about Jolon. Upper lip coiled back, 4 notched or rather 4 short lobes; lower lip narrow coiled twice.
- Douglas Oak very abundant; some trees with their thick branches look like English Hawthorn. - Jolon
- Eriogonum fasciculatum - Bushes 3 or 3½ ft. high. Common. Jolon.

Monterey Co.

Jolon

– Sphacele calycina Bth. cf. no. 14, 889.

No. 1702. Calycadenia villosa DC. Rays white, 3 (or 2), broad, 3-notched – Dry gravelly hills at Jolon

No. 1703. Lessingia. Flo. yellow. Dry hills, Jolon.

No. 1704. Cuscuta on Eriogonum fasciculatum. [California Clory graciliflora]

– Monardella villosa, in fl.

It seemed a very short ride from the San Miguelito Rancho to Jolon on account of the oak-wooded country. The Valley Oaks are a perpetual joy. Each one is different, in its branching and outline, and therefore in poise and stature, but they are Valley Oaks. No one would fail to recognize them as such. This is a good illustration of a species with pronounced individuality among

June 20, 1901

the individuals composing the species. The Douglas Oaks were just as interesting, too, in this way. The younger ones were often dense in their branching and Mr. Davy called them English Hawthorn types.

The Digger Pine branches so variously that it has a variable character such as is possessed by no other pine in California. I never tired of watching them on our long rides in this region. I have a great feeling for the Digger Pine. It appeals to me strongly. Why? Perhaps association. The dry hills, the shimmering heat, the struggle to live, the close way in which they follow particular rock-formations. In short, I love the tree and that is all there is to it.

Berkeley, June 30, 1901.

Prof. Joseph LeConte has just called my attention to an article in Science this year, by Bessey on twig-shedding in the Cottonwood. Everyone has noticed, in a dry region where wood is scarce, that it is easy to build a little camp fire from the numerous twigs which are found on the ground beneath the tree.

Again in the Bald Cypress, there is a shedding of the twigs, the leaf-bearing-twigs. The whole twig with its attached leaves falling away; these are beautifully seen in fossils.

Do the Redwood and Sequoia shed twigs also? They do to a certain extent - but with what regularity as to season and size of twig?

Berkeley, June 30, 1901.

Our willows have such very fragile-jointed branchlets that the species by these branchlets readily populate the sand banks of the river and creek beds. But do the branchlets actually fall off, that is are they cast off by the plant, or is it the result of wind and water action?

Mr. Davy tells me that a San Jose wood worker uses the valley Oak for various purposes in wagon building - that he values the wood. Therefore as he has properly seasoned or treated the wood. He does not find that the Live Oak becomes "trashy" after his treatment. Our native woods, therefore, have a bad reputation, because no one knew how to handle them.

Berkeley.

This same wood worker is making use of eucalyptus for pins on telegraph poles and for handles for soldering irons etc, on account of lasting quality.

Prof. Bailey of Cornell is there - looks the same as ever - is the same active, alert individual. He is enjoying California thoroughly. He gives a course in Summer School.

It was the last day that Prof. Joe. LeConte was in Berkeley that he saw me near the College of Agr. and waited for me at the cross-path on my way to the Botany Building to tell me of his interest in living -

July 6, 1901.

shedding in trees, as noted on the previous page. This was the last time that I was to see him for now comes news of his death in Yosemite Valley.

Inverness

- Fallugia Skalem - slender, sparingly branched shrub 6 ft. high or less.
- Ceanothus hispidula - woody stems 10 to 18 ft. high and 1 in. or less thick.
- Prosartes no 1716, fruits 3-sided (but not strongly), greenish, becoming yellow when dead ripe and losing the 3-sideedness
- The Bishop Pine when young is symmetrical as pines ever are - a strong terminal shoot and circles of lateral branchlets below at intervals. When they become tall - 70 or 80 ft. h. - they are often attacked by a

July 20, 1901.

fungus which is active on the trunk where have born a circle of branchlets. A storm snaps off the trunk here and the lateral branches then develop irregularly and give picturesque character to the tree. All of the old picturesque trees have unequal wide-spreading arms and are not tall. I like to see them at the top of the hill above the laurel brush, standing a little apart so that they may give back some sunlight from their trunks

I doubt if there are many trees over 50 years old. Most of the growth in size is in the first 30 years. Some of the pines

Inverness.

have a close round top on a tall trunk and suggest the pictures one sees of the country round about the Bay of Naples in which the Stone Pine of Europe plays a telling part in giving a distinctive character to the picture. The fog is racing in from the ocean & piling in over the passes and the greens are doubly attractive and marked in the contrast of the different shades, ranging from the light-green of the laurel to the dark green of Mountain lilac and darker green of the Bishop Pine-

Marin Co.

July 21, 1901.

- What should be the proper, common name of Umbellularia?
- Bishop Pine leaves persist three years.

No. 1705. Hypochaeris radicata. Inverness. Common in uncultivated land on the 'Mesa', but near dwelling-in unenclosed land.

No. 1706. Pinus muricata. Inverness.

No. 1707. Corethrogyne. Dry hill top at Inverness. Rays lavender, 31.

No. 1708. Woods above Inverness. P = Prunella Brunella vulgaris, in fl. var. lanceolata

No. 1709. Chrysopsis. Heads very leafy. Rays bright-yellow, about 25.

No. 1710. Euonymus occidentalis. along streams in bottom of cañons. 12 ft. h.

Marin Co.

Inverness

No. 1711. Alnus oregona Nutt. Inverness.
No. 1712. Cornus* glabrata. Young shoots from cut stump.
No. 1713. Cornus* glabrata. fl. brown.
No. 1714. Cornus* glabrata. From a "cane"; in shade. Internodes almost twice that of flowering shoots.
No. 1715. Oxalis corniculata L. ? Tuberous root.
No. 1716. Prosartes = Disporum smithii (menziesii Don) See note. pro- p. 54.

Campanula breweri - in flower, on road to Light House - one flower found with 2 stigmas instead of the usual 3.

* C. californica C. A. Mey.

July 21, 1901.

Whenever in these years at Berkeley I felt badly or ill or "seaserbawled" as our students say, I went to Lotus Land cottage at Inverness. That was not a nice way for a guest to behave but perhaps my hostess bore with me as did that other friend - Professor Greene - with whom ten years ago I wandered over the very bluffs where now stands happy Lotus Land cottage and botanized and marveled in in my first youth at the Bishop Pines. - Tan Oak, "comes up" from stump when cut square off at ground. - Laurel trunk fallen across second valley canon - crown died - numerous shoots come out all along trunk - from below (as well as above) but curving up ahead standing "straight up" as when from above.

Berkeley

H.P.

- Mr. Chandler says stage-driver (between Willits and Rose) asserts that Tan Oak lives 2 years after being girdled.

- Mr. Rose at Rose uses Wyethia for Poison Oak.

- Tan Oak, "japhanking" the bark, taking it off as high as one could reach; "cooning," climbing to get it off.

- Berberis nervosa - always called Oregon Grape in Mendocino & Humboldt Cos. "Root a superfine physic - decoction - never use anything else" - Stage Passenger.

July 23, 1901.

Platystemon Californicus - "Sleepers" - in North Coast Range because they close up at night.

H.P.

- Mr. Chandler has just returned from his trip from Eureka to Etna and gives me the above notes. He does not think well of the orderliness of Mrs. Manning (Mary of Hupa). She is very unsystematical, says Chandler; and adds as an afterthought (as if to clinch his argument) - Why, any one could tell that by looking at her hair.

- A lazy man is of no more use than a dead man and he takes up more room.

- The non-observant man goes through the forest and sees no firewood - Johnson.

St. Helena

Valley Oak, tree near bridge over Pope St. in town of St. Helena - all big limbs cut off leaving short stumps - from these a tuft of green branches with large leaves has appeared - but these thick tuft instead of being erect are straight down! like the ultimate branchlets in the adult tree! The pollarded tree is about 12 ft. h.

- Plants noted: Cichorium Intybus, Dipsacus fullonum, Mourning Bride, Eremocarpus setigerus, Acer macrophyllum, Rosa gymnocarpa.

Aug. 4, 1901.

- So far as I know there is no Redwood on the east side of the Valley. On the west side there is Redwood in most of the deeper cañons at least northward: Sulphur Spring Cañon; Cañon behind Parrotts; and I think Rebecca Ranch Cañon near Calistoga. On the floor of the Valley there is near St. Helena Digger Pine and Yellow Pine - but in sterile in gravelly soil - forming a zone of wash from Sulphur Spring Creek. The west side hills have an admixture of coniferous and other trees which is very pleasing, viz: Douglas Spruce, Madrone, Manzanita with a little Digger

St. Helena

Pine in very dry places or hot cañons and an occasional Yellow Pine here and there. Perhaps there were more of these in early days. On higher slopes there is the violet-brown of chapparal and here and there strongly contrasting areas of bare summer-brown spots or rather summer-yallow.

Sulphur Spring Creek - Cottonwood Tree - 80 ft. high - trunk very dark - considerably fissured. - Not native!

Aug. 4, 1901.

My brother-in-law Frank Pellet wants to know why the tops of Sequoia gigantea should always be dead or so commonly dead. Probably effect of wind and snow. Compare thickets of trees in coast with their tops killed by wind from the ocean.

Madrona - Sulphur Spring Creek - trunk dark brown, finely checked, above the bark exfoliates, sometimes 3 or 4 layers - often curving off in coiled shavings - like ribbons - the very dark red, then the chocolate, then the olive-green.

St. Helena

Redwood in Sulphur Spring cañon - leaves may while persist 9 years!

- Poison Oak - climbing Redwood - "snakes up" the tree and the "trawling" upper portion becomes as slender as a strawberry runner. Leaflets falling from rachis before leaf falls.
- Hazel, male catkins out and half-grown! (Corylus rostrata californica)
- When does the Madrona shed its leaves? The hillsides beneath the trees are now covered with the red-brown leaves of last season but I do not know how long they have been there.

Aug. 4, 1901.

- Valley Oak prefers the deep choice loamy lands. If one travels through the Coast Range country one finds where creeks or rivers are eroding their banks. at bends etc places where the bank is vertical. Here one can see the character of the sandy loam or silt for 30 or 40 ft. down. The banks cavers vertically in such places. It is in such deep soils that the warping forms of the Valley oak is found. On the low clay foothills or in stony or gravelly valley soils it is usually not warping.

St. Helena.

Calistoga burned down yesterday, including the historic Magnolia Hotel. Sam Brannan founded Calistoga as a watering place, compounding the name from the first syllable of California and the last syllable of Saratoga with is added for euphony. Sam Brannan was a Salt Lake Mormon. He was entrusted with the collection of certain church funds and when called upon to account for the money of the Lord he replied that he did not know any one of that name! and got away to California before the Mormons

Aug. 4, 1901.

could catch him. Everybody in those days knew Sam Brannan — all over California. He was an old bachelor. I think this is the same man who was a patron of Kellogg or at least a friend. Schemers & thieves are often the benefactors of men of science and others. — Charcoal at Stone Bridge on east side of valley covers the steep hill down to valley floor. Douglas Spruce & Madrone and Live Oak and Christmas Berry are on the north and east hillsides as on the west side of the valley. Also some Maple (acer mac.), while on the exposed clay hills we have Douglas Oak

Howell Mt.

On a clay "hillside open" about 4½ miles up there is (as in similar places) an abundance of Carum. The small plants nearest the road I took to be Carum Gairdneri and supposed the whole patch alike but marveled a trifle that C. Gairdneri should be 4 ft. high. However to make sure I dug up one on the bank side and sure enough it had a tuber that looked like a small nut. Then I dug up one of the tall ones. It had a cluster of tough fibres. The other differences between the two are:

C. Gairdneri: clear white flowers;

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flat umbel; umbellets approximate in fruit (closing up); long styles; a large number of sterile flowers (without pistil or an abortive one).

C. Kelloggii: dull white or sordid flowers; convex umbel; umbellets spreading in fruit. This species is about 4 ft. high, the former 1 to 2 ft. high, both of same habit. While Umbelliferae are characteristic of wet places - marshes and pools and borders of streams - these species grow in hillside spots excessively wet in winter and spring because of the way in which the clay retains the water. Their leaves are active in

Howell Mt.

spring. By the time the flowers or flowering stalks appear they are beginning to disappear on account of the excessive heat. A great many Californian plants behave in this fashion, as Stilomia, Madia; also plants which are not annuals. Also many plants which though perennials are not provided with storage organs.

— Big Tree (Sequoia gig.) wood is very brash acc. to Mr. Frank Pellet. Neither is it so good to put in the ground as pine. It is best milled into lingue and grove, etc.

Aug. 5, 1901.

- Douglas Spruce is continuous up to the altitude of the La Jola Plateau where it forms a pretty well marked zone along the mountains. Yellow Pine so chiefly above it. There is no yellow Pine near the junction of the Howell Mt. grade & Crystal Springs Road, and none above this altitude
- Xylothermia, fls. rose-color, banner with a spot (oblong) along the midrib at base = Pickeringia montana Nutt.
- Laurel* in chaparral and especially chamisal on Crystal Springs road near Toland House.

* = Umbellularia calif.

Howell Mt.

Psoralea macrostachya: lower lip of calyx as long as ~~banner~~ wings. corolla blue; lower portion of banner dull greenish or whitish; keel broad and blunt; upper lip of calyx short, with 4 broadly lanceolate teeth.

– Calycanthus – innermost stamens sterile.

– Digger Pine – a number of trees in Mt. valley above Sanitarium and just below brass Roads near Toland House.

– The low but conical hills which stand at the edge of or project onto the valley floor in so many places are densly covered with Douglas

Aug. 5, 1901.

Spruce – as on ~~Battle~~ Glass Mountain – and the ranks of trees above each other give the impression one sees on the Inner Channel, Seattle to Sitka. On the west side of the valley Douglas Spruce seems to be scattered here and there, apparently reaching the summit in small groves here and there but the trees are very scattered about Yountville and towards Oak Knoll disappear. Chamisal in dreadful poor light soil; crop light.

Crane Place just south of St. Helena; Yellow Pine, Digger Pine, Manzanita & Chamisal. The latter once abundant on Pellet Ranch, dug up for vineyard; grapes produce wines of fine bouquet.

Napa Co.

St. Helena.

Alnus rhombifolia Nutt.
No. 1717. Alder. Sulphur Spring Creek. Bark white rather brown

No. 1718. Quercus. St. Helena.

No. 1719. Quercus Kelloggii, "

No. 1720. Vitis californica. Napa Valley

No. 1721. Douglas Oak, the leaves all from same tree.

No. 1722. Douglas Oak. Second growth with serrate leaves.

No. 1723. Douglas Oak twigs from one tree.

No. 1724. Douglas Oak twigs from one tree. Nos. 1721-24 from Howell Mt. Grade accidentally H. A.

No. 1725. Ceanothus? Mat-me leaves - Howell Mt grade

No. 1726. Carum Gairdneri, Gray; see note under Howell Mt. a few pages back (p. 70).

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No. 1727. Carum Kelloggii - see notes with preced. Reference to form of umbel probably does not hold.

No. 1728. Linum. Howell Mt. Corolla very slightly pinkish, 3 lines long. L. sparguinum Gray.

No. 1729. Douglas Oak, Howell Mt. grade - all from same tree.

No. 1730. Rosin Weed. Rays, white, slightly flesh-color in age, so deeply cleft as to appear like 3 rays (trefoil-shaped); divisions of ray broad. Howell Mt., summit, towards Jack grade. Calycadenia multiglandulosa DC. ssp. cephalotes (Gr.) Keck

No. 1731. Gilia = Navarretia - heterodoxa Greene. noxious smell - "turns stomach" says Dorrie, - Howell Mountain.

No. 1732. Sisyrinchium ~~Douglasii~~ coulteri. - Howell Mt

No. 1732 A. Lessingia. Flowers 7-9, white, changing to purple. in a head

St. Helena

No. 1733. Pinus ponderosa Dougl. Yellow Pine. Howell mt.

No. 1734. Psoralea macrostachya DC. " "

No. 1735. Quercus Berberidifolia Liebm. Howell mt.

C. subinclusa D. & H. = Navarretia viscidula Benth.

No. 1736. Gilia Howell mt. Bottle (See p. 81)

No. 1737. Valley Oak from young stumps. Shoots long and almost filiform, branching freely in same season, total growth about 4 ft. Sheet all from same tree.

No. 1738a. Vitis Californica - Napa Valley.

No. 1738. Carex multicaulis Bailey, Det. K.K.M. - Digger Pine - nuts fall out of the cone before cone falls - the small boys gather them. Some nuts have good kernels;

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some have not. This can be determined from the outside. If the large end of the nut (opposite the micropyle) is of a bright blue color, reddish or red-brown, then the nut is good. If it be of dead color the nut's kernel is no good. A boy will moisten the end of a nut and if it shines red it is good. Sometimes the red is very bright and live and the little fellow exclaims: Oh see there; he's red. There's a fine one. Sometimes a cone will fall early and the nuts will be white; these are called "vicias". Sometimes the kernel spoils although good in the first place; then the nut spot becomes tarnished or worn greasy or greasy-looking.

Cordelia

Record of Pictures: Spool No. 1.

1. Yellow Pine - Howell Mt.
2. " " " "
3. " " " "
4. Poison oak bush - Napa V.
5. Poison Oak bush - Napa V.
6. Wind-blown Live Oak
7. Wind-blown Live Oak
8. Wind-blown Valley Oak.
9. Wind blown Valley Oak
10. Wind-blown Live Oak on comm hill
11. Wind blown Live Oaks, 3
12. Wind-blown Live Oak

Cordelia

Spool No. 2

1. Wind-blown Live Oak - Cordelia
2. " " " " "
3. Valley Oak - decrepit hillside
4. " " - dense young type in valley land

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5. Buckeye - Osage Cañon, Arroyo Chiquito Hills
6. " " " "
7. " " " "
8.
9.
10.
11.
12.

- cont. from p. 78, no. 1736. Could this "Bottle Nut" be "Glass Nut"?

Cordelia

- Asclepias speciosa - in fl.
- Populus fremonti - one large tree on west side Stone Quarry Hill - probably native at this spot.
- Yellow Star Thistle
- Clematis ligusticifolia; petals frequently 6 - Green Valley
- Fraxinus Oregana - trees 20 ft. h.
- Rosa californica - petals notched at apex - Green V. - Green Valley.
- Picris echioides - " "
- Alisma Plantago - sepals 3, green; petals 3, white, orbicular, 1/2 lines long. - Green Valley

Solano Co.

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No. 1739. Rhus diversiloba T. & G. Poison Oak. Green Valley.
No. 1740. Cornus Torreyi = C. glabrata Bth. " "
No. 1741. Gilia Navarretia nuda - Stone Quarry Hill. ↑ Bth.
No. 1742. Eriogonum nimineum. Stone Quarry Hill.
No. 1743. Erigeron monactis Gray - propagating by rather slender rootstocks - stony ground of low hills at Stone Quarry Hill. See next leaf
No. 1744. Cat-tail. Cordelia Marshes.
No. 1745. Quercus - Live Oak - Cordelia.
No. 1746. Artichoke. Cynara scolymus var. cardunculus - Cordelia.

- How the wind blows! - hi - and away. My hat is tied with a piece of baling rope and it floats at the end of the rope. The oak branches seem combed out in the direction of the wind. A Valley Oak (Picture No 8 Spool 7) has a growth of 2 ft this season at the end of the horizontal crown.

Green Valley

Green Valley must be 5 or 6 miles long. Even here the wind blows but perhaps not as steadily and as constantly as at Bordelis. The direction of the wind seems to be southeastward - down the valley - the oaks pointing away from the wind.

There are some nice farms and farmhouses; there is one which is characteristically Missourian - a large house right by the roadside and trampling lying about where it was dropped, in the barnyard and all.

Aug. 7, 1901.

One hay field, from which the hay has been taken, is covered with Gaillardia Solstitialis. This is also along the roadsides but is a first-rate pest in cultivated fields. At the head of the valley is Two Sisters Peak - southwestern slopes covered with Brush.

[No. 1743, cont. Heads not hemispherical, (as seen when dry) but cylindric and thick, but the sides of the involucre parallel. What a difference in the pressed specimen!]

Vacaville, Aug. 12, 1901.

Went out to Osage Canon in the Arayipa Hills to look at the Buckeyes in late winter condition. They are fast loosing all their foliage, the leaflets falling from the petiole which is still rigidly attached. At first the petioles are fleshy but as the reserve materials are withdrawn they become rigid and ~~fleshy~~ dry. The lower ones usually turn downward, even before the leaflets fall. The high grass and wild oats are bleached white by the summer sun and the hills are hard to climb. I did not have on (as usual) my hob nailed shoes and in consequence I fell half-a-dozen times, it being almost impossible to keep ones footing. The grass being like glass or ice. - No. 1747. Aesculus Wrightii, - Osage Canon, Arayipa Hills.

Berkeley, Aug. 16, 1901.

An undergraduate student friend of mine, Mr. H. M. Evans, tells me of his recent trip with the Sierra Club to Yosemite Meadows. He rode a horse from the San Joaquin Valley to the High Sierras and had no companions for several days, but never for a moment did he feel alone, there was so much to see and to study of interest. When he joined the party the pack train animals refused to ford a stream near Yosemite Meadows because the water was so cold, coming from melting snow. The train went over but refused to come back! The burnt child dreads the fire! Only 2 (mountain) horses could be induced to go over. One night they were out at a high altitude without blankets and found it convenient to strip the already bark from the Junipers to furnish themselves with a pillow.

Berkeley, Aug. 20, 1901.

California Walnut: In adobe soil near Covina, rather old trees, 20 to 25 ft. h. Sierra Madre foothills, grows in sandy soil, trees not so large, 10 to 15 ft. h. More commonly affected by galls (trees in adobe soil do not seem to be so affected)."

Near Covina the trees are fine and large, and associated with Sycamore and Live Oak. This is on the Hollenbeck Ranch in the foothills, and one may see them to advantage in the Hollenbeck Pass on the way from Covina to Spadra which latter is in the ~~Hollenbeck~~ Pomona Valley – These notes made by Miss Harriet Smith of Azusa. Near Azusa the trees are frequently cut down and come up again from the stump.

Berkeley, Aug. 26, 1901.

– Mr. Evans in speaking of the Coal-Grape vine remarked that by means of its long stems he was able to climb Cottonwood trunks devoid of limbs for 60 ft. and thus get at the nests of cranes. This on the Stanislaus River. (= Vitis californica Bth.)

– Mrs. Mary H. Manning says there are Digger Pines in Hupa. She likes the trees. Say they form a distinguishing feature of the country where they occur; they are pretty to look at. She had also noted as I had that the very largest and finest trees are in the Upper Sacramento valley on the Cottonwood or similar streams north.

The Digger Pine, like many another Cal. plant, has a horse-shoe shaped distribution, with the top of the shoe at Shasta and the forks in the Coast Range and Sierra but not meeting at Tehachapi.

Berkeley, Aug. 26, 1901.

Mrs. Manning says the Madrona leaves fall in July in her country.

No. 1748. Quercus agrifolia.
Berkeley.

Mr. Howard Stillman, the S.P. Co. Engineer in charge of Tests at Sacramento is here in Berkeley now visiting his mother-in-law Mrs. E.V. Hathaway. His father was Dr. J.B.D. Stillman, an early member of the California Academy of Sciences and a physician. He loved natural science and took to Botany. He had a full set of the Pac. R. Rep - the few sets of papers accessible to the botanists [one of] of that early day. His set the Doctor took a pride in and colored the plates from living specimens.

Berkeley, Sept. 16, 1901.

Cont. from p. 90.

Mrs. Hathaway remarked that the Doctor one day said to her: "I do not love my profession; I love books." In such case how could he have been expected to be a successful physician; in any event he was not. He lived first at Sacramento and then later at S.F. A firm friend was Senator Stanford who said to him: "Let us take Howard and make a railroad man of him;" the Doctor not knowing what to put the youth at. Howard was the first graduate of mechanical engineering at the U. of C. Another brother is Dr. Stanley Stillman, making a name for himself in S.F.; Prof. John Stillman of Stanford University and Leland Stillman, a lawyer of New York City. [who was named for Stanford had before Stanford had a son]

Berkeley, Sept. 20, 1901.

One of my pharmacy students tells me this story: He was out on his first trip for a wholesale firm. He was nervous at first and at the first drug store he put his hand in his pocket and drew out a card:

"I represent that concern", said the young man.

"You are fortunate" replied the pharmacist. The youth wanted to sell goods so he lost his nervousness and thus encouraged:

"I think so Sir", said he, "and the drug man who trades with us is even more so. My house has the finest line of cosmetics in the world"

"I shouldn't have thought it", slowly responded the man of medicines, "her complexion looks natural" and he handed back the photograph which the young man had given him in mistake! He was then so confused he couldn't take the order.

Berkeley, Oct. 3, 1901.

When do the acorns get ripe? Dead ripe. The growth of the annual acorn of the Live Oak has been most rapid in the last few weeks. Specimens collected August 15 (about) were scarcely larger than peas. They are now full-grown and have been making a great sprint in the last few weeks.

Valley Oak. When do acorns ripen? Also Kellogg Oak. Blue Oak. Differences in time? Most of these are dead ripe Oct. 15 to Nov. 15 and acorns have quite fallen by Christmas.

Leaves are cast off. No stem that has ever borne a leaf can bear another. The new leaf must come from a new stem or branch; the branch may be so short that it is called a "spur". Popular expression answer to correspondents. - "leaves fall"

Berkeley, Oct. 3, 1901.

- Voy was a miner in early Californian days who lost an arm by an accident. He turned collector eventually. Was an awful bore, but he had tremendous persistence. Though unlettered he got picked up enough from scientific men to learn what was valuable to collect. D.O. Mills bought for the University "the Voy Collection" of woods, etc which the University now possesses. Voy went to the South Sea Islands in cannibal days: the reason that he was not eaten was that he was so very thin! So Miss Kellogg says who knew him.* ↑Minnie

*My remembrance is that his initials were C. D. However, near 30 years is a long time to remember.

Berkeley, Oct. 3, 1901.

- Prof. Geo. H. Howison says that Professor Greene expressed his religious convictions to him very forcibly. "Now honestly Greene do you believe that?" "I do, I feel the presence of the living God, in even going near a church. The Eucharist is the real flesh and blood of Christ".

Prof. Greene to me always spoke of Evangelical places of worship as "meeting houses", not churches.

Prof. Howison lectured the Faculty today. He hasn't done that for a long time. One of his expressions was this: "I'm amendable to argument" - and then after a moment - "but not much"! - Faculty meeting, Oct. 18, 1901.

Berkeley, Oct. 8, 1901.

Mr. W. W. Barruth: Hemitomes congestum (pumilum) – lies alone ("plants") from one "tuber" – under Redwood & Douglas Spruce, – offers no sign on surface of ground, wholly subterranean. – Near Signal Ridge, Mendocino Co., 1901. Beyond Yorkville.

W. W. Barruth = pupil of Miss Blythe (of the Oakland High School) – 15 or 16 years old. – came in to my office (having appointment by letter) and said: "I didn't expect to see such a young feller*!" He brought his bundle of plants with him. Reached around into his side pocket and pulled out a much used copy of the Flora of Western

Berkeley, Oct. 8, 1901.

Middle California. This book he regarded with the most affectionate interest – seemed to value it most highly – but he was evidently very much disappointed ~~that~~ in the author of it. Well I answered his questions and corrected his determinations for 2 full hours and I think he went away very much pleased.

* previous page: I could have said the same thing to him!

Oct. 9, 1901.

One of the Villmorins of Paris – a young man – came in today to the Herbarium to visit us and have some plants named which he collected on a trip across the mountains of the Canadian Pacific and California.

Berkeley to Pine Cañon, Mt. Diablo.

- Aralia californica - near Fish Ranch, Berkeley Hills
- fine line of Alders (A. rhombifolia) between Fish Ranch and Lafayette; stammoth aments 1 in. long and in some cases giving the tree a new aspect.
- Native Walnuts near Walnut Creek - also between Walnut Creek and Lafayette - many along streams in this region. Used in this region as stock on which to graft the English Walnut because being much better adapted to the soil. The

Oct. 11, 1901.

graft will bear in 3 years and bear abundantly the fourth year; an English Walnut from seed takes 8 years to bear. The Hutchinson place has rows of these trees (grafted on native stock) along its driveways. Hutchinson (said the driver of the team) married the daughter of Woodward's Gardens in San Francisco!
- Pine Cañon - Poison Oak clumps 10 ft. h - destitute of leaves
- Maples (Big-leaf) leaves only about ½ average size of trees in cool cañons near coast.
- Fred. Swanson Walnut Creek, California - took our baggage to Pine Cañon and would be glad to do it again.

Summit Monte Diablo

The pines in Pine Canon are Pinus Sabiniana, the pines in Mitchell Canon are Pinus Sabiniana. There are no differences. Some cones simulate the Coulter Pine cones as to hooks on lower scales but the trees invariably have the habit of Digger Pine, the leaves of Digger Pine and the trunk the branching habit of Digger Pine.

The high ridge from Mt. Zion to Eagle Peak presents one of the purest Chamisal formations that I ever saw - very regular and very clean - so

Oct. 12. 1901

that the whole range is black with it.

If there be Coulter Pines in Pine Canon I did not see them I do not believe that there are any there. If there be any Coulter Pine in Mitchell Canon they are probably well up on the east side. The two trees are of such distinct types that they cannot be confused.

But Digger Pine is always by itself - no other pine in its main range ever associated with it. Besides it grows in the hottest and driest places. It never stands straight so often as it "tips"; it is a tipsy tree, turning one way or the other on the slightest provocation.

Mitchell Cañon, Oct. 12

- Poison Oak bushes 6 ft. h. the leaflets falling and leaving the straight petioles sticking out like needles all over the bush - but these fall at a touch!
- This is a fine cañon - the finest on the mountain - a great variety of trees and shrubs, the Hop Tree, Rhamnus ilicifolia, etc
No. 1749. Pinus Sabiniana, Mitchell Cañon
No. 1750. Pinus Sabiniana, Pine Cañon.

Berkeley.

"We liked to go kick the crabapples" says Mr. Tracy, "as children". "We like them because they are wild, not because they have a very good flavor but simply because they are wild." It is something in the woods. We have a fancy for the wild flavor. — A package of fresh material of Oregon Crab from Eureka.

Berkeley, Oct. 19, 1901.

- Miss Terrill of the Oakland schools says that three Mormons people assure her that killing or cutting away the leader of a Bishop Pine will kill the tree. This does not seem likely since so many trees loose their leaders by storm and wind and become flat-topped after the fashion of most old trees.

Lake Merced, Oct. 27. (S.F.).

Spring Valley Co's nursery - are planting a great many trees - eucalyptus globuliferus especially, but also Monterey Pine, Monterey Cypress and Lawsoni Cypress. Mr. Hyland, the Supt., has two beds of Locust - in one bed of loam and heavy soil there is a forest of young seedlings very thrifty - in the bed of "in situ" sand there are few scattering starving seedlings! Object lesson of the effect of sand. No native broad-leaved native trees do not grow on the S.F. Peninsula.

Berkeley, Oct. 19.

Re. Quercus lobata =

"David Johnson, Covelo, lessee of the Henley Ranch, Round Valley; owners, Bank of Ukiah. Some men on the ranch think the Henley Oak is not the largest oak in the valley; that there are larger ones on the ranch of "Cattle King" White." — P. T. Goddard.

— Miss Murray, daughter of William Murray, has just returned to England. Her father came to S.F. in 1849, having botanized in the Andes, Panama (& Chimili) and made a botanical trip from San Diego to Mt. Shasta! — [In this trip he collected the new cypresses which were described by the Edinburgh people].

— Berkeley, Dec. 14, 1901.

St. Helena. Nov. 17, 1901.

No. 1751. Quercus lobata. Tree in loin of St. Helena; pollarded so that only a few short stumpy branches are left on main trunk; these have put out a heavy and dense growth which hangs down 6-8 ft., thick and heavy, like a head of hair. The branches (new growth) are unbranched, half-the size of a pencil, same size all the way down (like a long whip-lash), very leafy, and so many of these branches that they form a ## column-like arrangement. The specimens show the broad undivided character of the leaves. The upright branches will doubtless come another season when there is a sufficient supply of food to

St. Helena

guarantee strength. These pendulous branchlets have sacrificed everything for creating leaf-surface, and will eventually fall away. There is another oak, pollarded much higher, near this one, which has now regained its strong erect branches and has no drooping branchlets - having lost them as I suppose.

No. 1752. Quercus Californica
Shoots from a burned tree, the shoots from the very base of the stump.

No. 1753. Quercus agrifolia. Shoots from the very base of a burned tree. (Det. of this depends on det. of next.)

Nov. 17, 1901.

No. 1754. Quercus agrifolia. Firm trees by side of grade to Sanitarium. Bearing acorns abundantly. Some acorns sprouting on trees, the last week rainy and not very cold. Acorns very variable in size and shape, some being thick and rather short, others very long and slender. The acorns of this species were at this time in fine condition - just beginning to fall.

- Above the Sanitarium 1½ or 2 miles a hill is crowded with Toyon - the bushes growing on the high rocky hillsides run more to fruit and less to foliage; lower down in the canons and in valley soils the foliage predominates.

Berkeley

– There came in to my office this morning Mr. Martin W. Gorman of Portland Oregon, who is just returning from an Eastern trip. He says Howell is very poor but he never saw a man with so much fortitude. He began his Flora after he was 50 yrs. of age. He has not a common school education even. He can spell botanically but cannot spell ordinary English words. He has, however, contrary to Mr. Gorman's expectation, improved greatly in his spelling since he began work on the Flora. He is very poor having lost the money received from the sale of his share of his father's estate in "unfortunate" investments. He was really taken in and fleeced by Portland sharpers. One man promised him an income of 300 a year, 25 a month, if he would put in 3000.

January 20, 1902.

Mr. Howell felt that he could live on $25 a month in his simple way and work on his flora. But he never got back a cent either in interest or principal. Another man who was looking for suckers got him into a laundry business scheme, and in addition got his signature to certain notes for machinery and then skipped out. Mr. Howell lives at Willamette. He sets up the type for his Flora with his own hands. That is the only way by which he is enabled to get the Flora out. Then 8 pages at a time are sent up to Portland and printed. Mr. Gorman, and sometimes Mr. Drake, read proof for him. He lived formerly on Sauvie's Island where the family had a dairy ranch. Mr. Howell learned to run an engine and

Berkeley.

So took the milk daily to Portland where he sold it. He used this knowledge of engine-running in a trip to Alaska with Mr. Gorman. The two went in a little steamer. They anchored one day in a little inlet and went off to a mountain top which they saw in the distance to botanize. They returned at night to find that the 24 ft. tide had run out with such velocity that the anchor had (luckily) dragged and carried the steamer out into deep water where they managed to get aboard of her and resume their journeyings.

Mr. Gorman crossed the path of Farlett who was collecting in Alaska. Some prospectors

January 20, 1902

coming down the Yukon one day shouted out to him. "Say, there's a fellow like you up the river!" Thus is the breed of botanists recognized! Gorman is a man of 50 or 55, gray hair, more or less bald, rather prominent features, blue eyes, clean decisive way of speaking and evidently a first-rate observer.

To remember only the pleasant parts of a journey - to forget all the little things, the small annoyances, the small frictions, — all this means happy dreams, to see again the green forest, to hear once more the rush of water. Sometimes just before going

Berkeley

to sleep, there will come to me clear sharp strongly illuminated tan-colored pictures of the Calif. hills that I have been over - scattered - strange sharp and clear - and often succeeding each other in quick succession - then I go to sleep. And these are what I call dreams - for true dreams rarely come to me.

— Mr. H.P. Chandler has just been interviewing Miss Eastwood about Nemophila species. He suggested the desirability of doing monographic work. Yes, said Miss E., I should like to do that, but I have no time for monographic work!

Feb. 20, 1902.

— Mr. J.B. Lippincott of the Los Angeles U.S. Hydrographic office is lecturing here on California hydrography. He spoke of rain precipitation from clouds just beyond the crest of a mountain as in the Santa Lucias. In the Sierras there is an increase of 6/10 of an in. for every 100 ft. alt. The max. horizon is reached with the rising of the clouds to a certain point, and at Gold Run the fall is greater than at the summit. The rain fall at any place in the mountains in California can be computed (having a base station) as accurately as it could be determined by a rain gauge. The tremendous dif.

Berkeley, Feb. 25, 1902.

between rainfall at the crest (50 in.) and 6 miles away (18 in.) he spoke of as occurring in the San Bernardino Mts where the Arrowhead Co. is working on the situation. Rainfall much greater in a cañon than on the ridges. – Mary Hathaway

– Mrs. Greenleaf grew enthusiastic about the mountains today and said in conclusion: Oh. I do hope that there will be mountains in the next world!

– Mr. Davy remarks to me that certain Ceanothus species are getting scaly in the garden. I know C. thyrsiflorus, a fine bush, was killed by scale. I have never

Berkeley. Mar. 14, 1902.

noticed scale on shrubs in the open – but Mr Davy has – probably only on shrubs near the coast. I think C. cuneatus of the high dry ridges is never affected by scales. The Berkeley hills are singularly destitute of Ceanothus species – might not this be attributed to moisture and consequent attack by parasitic organisms?

– If I had two loaves of bread I should sell one and buy hyacinths. – Koran.

– A pharmacy student brought in the root and basal leaves of an Umbellifer. Its main petiole was spotted and about the base it had a "mousey" (mouse-like) odor ∴ = Conium maculatum.

Berkeley, Mar. 17, 1902.

- Mrs. Wilkinson (warring) tells me that the florists' windows in Paris are full of white lilacs. The growth being definite as in the Buckeye, the parts are all made in autumn, and the florist forces them, putting the stems in warm water.

The Pines in the Pinetum near Oxford st. University Farm. Apr. 4.

- Pinus attenuata, cones in anthesis about ½ in. long, 2 to 5 in a circle, erect, on peduncles as long as the cone itself; cones broadly oblong, reddish brown; scales with roundish body and lanceolate point; bracts roundish, about as long as body of scale; shoots not producing needles in first-third of season's growth but the naked zone not as wide

Berkeley, Apr. 4, 1902.

as in Digger Pine; needles 5 ½-6 ¼ in. long. One-yr old cone horizontal, 1 ½ in. long, the prickle-like points still persistent on the scales.

- Pinus Sabiniana. Branchlets curving into a ½ circle!!! Needles 3 (10 in. long), drooping! Staminate cones ovoid, 4 or 5 lines long or somewhat longer after dehiscence, about 16 in a short (1-1 ¼ in.) spike. The zone of needles on the season's growth is very narrow and terminal. There are now 3 zones present, that is the leaves persist 3 years.

- Pinus attenuata, staminate cones in anthesis ~~narrowly~~ oblong, 6 to 8 lines long, 40 to 60 in a dense spike 2 to 3 in. long.

- Monterey Pine. Foliage very dense.

Berkeley, Apr. 4, 1902.

- Pinus contorta, leaves persistent and ~~that~~ clothing the whole or nearly the whole season's growth so that the aspect is very distinct from the thin-foliaged tree of Pinus attenuata.
- Tree with "immense" bruised buds next to Oxford st. long needles. Mr. Tracy thinks it P. ponderosa.
- Sunshine is abroad and April winds are blowing over green hills So I am singing for the road and the trail, and the mountain that is brother to the sky.

Some time this spring Mr. Tracy noted stamens partly united in S. lasiolepis.
4 trees in Strawb. canon, united.
2 " " " ", not "
Are there other sp?

Vacaville, Apr. 12, 1902.

- The alkali garden at the Little Oak farm - how beautiful it is now! The ugly alkali patch of summer time, hot and white, despised of the ranchers, behold it now! Carved with flowers of many hues; one might say they loved the alkali they flourish so. Some Clover, (Trifolium fucatum Lindl.) great big fat fellows! Carl calls it Cow Bag, the inflated corollas (or udders) are pulled off in a bunch from the receptacle of the head and the abundant honey is sucked out by the lips of the country school boy.
Orthocarpus erianthus forms great even patches of color—

Vacaville, Apr. 12, 1902.

Carl calls it Bread & Butter – the yellow flowers with the brown calyces and stems! Then there is Astragalus tenn, which grows only on the alkali. Beddies galore! Peucedanum carnifolium – this I did not chance to see this time. And Tidy Tips (Layia platyglossa). – I have seen these only on the alkali in this region.

Sour Clover (Trifolium fucatum Lindl.) flowers are yellowish-white – they turn reddish-brown in age.

– The finest views say Mr. Hart. North are in the Coast Ranges, not Sierras. We described that from Mr. Hull, I that from Mr. St. Helena. There is nothing to compare in breadth and variety.

Violet, Apr, 12, 1902.

– Trifolium trident atum Lindl. makes a fine showing here. It fair covers acres and acres with purple.

– Ralph Platt says the Eschscholtzias are much finer in color this year than ever before in his memory. These I carry down with me came from a little green vale all brilliant with their color. It is removed from main duriburgo. The poppies ~~shed~~ radiate their graciousness on all alike that come into their presence. They run out onto the low green hills in fine streamers of enthusiasm. Of all things about they focus my interest, centralize my admiration.

Violet, Apr. 12, 1902

- No. 1755. Microcala quadrangularis. Fls yellow, each corolla lobe with 2 terra-cotta spots towards base. Stamens in sinuses of corolla. - coll. in very shallow winter wash in field.
- No. 1756 Mimulus

Note for Summer Trip.
- Dr. Stafford, Santa Ines, California. is a local naturalist; friend of Miss Tichnor.

— Ranunculus cannus Benth. Collected by R. H. Platt towards Rio Vista. Perfect match for Harling number in Herbarium Hookerianum, Kew. →

Vacaville, Apr. 13, 1902.

See p. 122

* Ralph tells me that he got his specimen of Ranunculus cannus, which I formerly called it. var. hesperoxys, at the end of the N.W. road out from Rio Vista, where the road branches and where there was formerly a blacksmith shop. There was plenty of the buttercup.

Berkeley, Apr. 21, 1902.

- Lupinus rostratus #335 Goddard in U.C. Hb. He says there are two vars. at Crescent City, one on coast is smaller, smaller nuts, "different colored bloom"; one inland larger, different color, larger nuts."
- Goddard says Crescent City Indians regard the Redwoods as occupying center of the world - they occur only a slight distance northward and there is a Belt in the break Southward.

Quin Mine (Calaveras Co.)

1100 ft.

No. 1757. Microseris. among brush on steep shaly south slope.

No. 1758. Hypochoeris glabra

Outermost row or 2 rows of achenes not beaked! their pappus bristles cobwebby at base; bristles of all the achenes plumose. With 1757

No. 1759. Gilia capitata Sims ssp. pedemontana V. Grant ~~Gilia acaulescens~~ Bth.

With 1758. = G. stamnea Greene.

No. 1760. Rhus diversiloba - in bottom of sharp-cut ravine. See opp. page.

No. 1761. Cerastium viscosum - with 1757

No. 1762 Grass. Melica torreyana Scribn. ~~Melica~~ ~~imperfecta~~ Trin.

No. 1763 Diplacus. " " See p. 125

No. 1764. Sanicula menziesii H. & A. Stony south hill.

No. 1765. Malvastrum. " " ".

Plants (shrubs) 4 ft. high.

Sphaeralcea fremontii Jepson.

May 12, 1902

- Observed the following:
- Vitis Californica
- Clematis lasiantha, in fl.
- Rhus diversiloba (No. 1760), sepals ½ length petals; petals ovate, revolute so as to appear lanceolate, dull white, often slightly pencilled with a black dot or so; stigmas 3, unequal.
- Rhus rhombifolia
- Pinus Sabiniana
- Hookera volubilis, in fl.
- Melilotus Indica - dry stony south hillside among brush
- Adenostoma fasciculatum H. & A.
- Ceanothus cuneatus Nutt.
- Eriodictyon glutinosum (Yerba Santa
- [No. 1763. Mimulus aurantiacus Curt.]

(Calaveras Co.)

Gwin Mine.

1100 ft.

No. 1766. Bryptanthe - top of dry rocky hill. C. micromeres Greene

No. 1767. Psilocarphus tenellus Nutt. var. tenellus. ~~Gnaphaloid brast(ole).~~

with 1766

No. 1768. Lupinus L. albifrons Bth. Brish 3½ ft. h.

No. 1769. Gnaphaloid, with 1766.

~~No. 1765. Bryptanthe micromeres grene.~~

– Two hundred thousand ft. of timber go down into the Gwin mine every month – all Oregon Pine, Douglas Spruce). It comes from Oregon altho the timber belt of the Sierras is only 25 miles back.

– L. F. Henderson, once a teacher in McClure's Military Academy Oakland. David McClure's a boy took a trip with him to the summit of Mt. Diablo.

May 12, 1902.

They saw the sun set. Henderson who lived oftenest in Oregon & Idaho said that he had never seen so fine a sunset in the north as he had seen at Mt. Diablo. This to McClure.

– Mr. F. F. Flanagin U.S.N. was in a ~~boy's~~ school at the Hudson. He had a letter from his ~~aunt~~ sister Mrs Louise Hunt describing the Big Trees of Calaveras, two men riding on horseback through a hollow log lying on the ground. Mr. Shepherd was at that time located in Calaveras: he was Mrs Hunt's brother-in-law. Fred Flanagin told the story of

Calaveras Co.

Gwin Mine

1100 ft.

the Big Trees to the boys at the school and at once achieved the reputation of being the greatest liar in the school and in the state of New York. He had such a reputation for this story that the details got to one of the teachers who reproved him severely for the sinful habit of exaggeration. Harper's Weekly in a short time illustrated and described the Big Trees and young Thomas laid a copy on the master's desk - but he heard no more about the exaggeration habit. (All the master had said that any one with half a sense knew that that couldn't be true"!!

May 13, 1902.

- Mr. McClure tells me that Bret Harte has a married sister living in Oakland who has great literary genius.

Linnate

No. 1770. Madia subspicata Koch ??. Brushy hill above Gwin Mine.

No. 1771. Madia filipes with 1770

No. 1772. Lotus. Fls red, fading dull yellowish. with 1770 L. micranthus Bth.

No. 1773. Calochortus albus Dougl Elmer 9-flowered or less. See next page.

- Mr. Elmer says horses browse upon Poison Oak, prefer it, grow fat upon it. - Gwin Mine.

- I have examined many Clematis lasiantha bushes on the hillsides here and all are either perfect fl or staminate fl.

Calaveras Co.

Gwin Mine

1100 ft.

From the ridges above the mine one has a fine view of the foothills, the Great Valley, Monte Diablo, the Mokelumne River, and Jackson Butte a fine landmark beyond it, and the High Sierras.

- Caprorchis formosa - with 1770- in bud.

- Calochortus, 1773, flowers white (or pink-tinged toward base); gland consisting of 4 lamellæ with ~~gland~~ fringed edge; a zoned pink hairy covering the crescent above, scattered hairs above this, hairy-ciliate, except at apex

= Dudleya cymosa (Lem.) Britt & Rose ssp. gigantea (Rose) Moran
- Echeveria laxa Lundl. var. nevadensis Jepson. see no. 1810.

May 14, 1902.

No. 1774. ~~Cirsium~~ californicum = Gray F. 3 ft. high. Hill top above Gwin Mine

No. 1775. Yerba Santa " " (Eriodictyon californicum H. & A.)

No. 1776. Trifolium micro- " " capitatum Ph.

No. 1777. ~~Fragaria~~ Bromus rubens L. (det. Beecher Crampton, Nov. '75)

No. 1778. Trifolium trident. " " var. watsonii Jepsn.

No. 1779. Agoseris heterophylla

No. 1780. Hedge gallica " "

No. 1781. Carex laeviculmis Meinh. det. K. K. M.

No. 1781a. Lathyrus ~~sulphureus~~ in wooded cañon sulphureus Brew.

No. 1782. Sanicula bipinnatifida Dougl. in wooded cañon.

No. 1783. Githopsis spec. " "

No. 1784. Thysanocarpus = T. laciniatus Flo. purple Greene. laciniatus

No. 1785. Nemophila; wooded cañon. See p. 145 (peninsulare Lemmon.)

No. 1786. Allium; flo. bright purple, " "

No. 1787. Trifolium tridentatum Lindl. var. watsonii

No. 1788. Fritillaria ~~micranthe~~ pamiflora Torr.) - woods, Gwin Mine

No. 1789. Githopsis (Capt Messenger).

No. 1790. Eriophyllum (annual!).

No. 1791. Trifolium microcephalum Ph.

Quin Mine

Calaveras Co

1100 ft.

- Erodium cicutarium
- Erodium Botrys
Anthemis Cotula
Matricaria discoidea
Sonchus asper
- Styrax californica Torr.
Philadelphus
- Styrax Californicus. Petals 6; stamens 12. Petals apparently no more than connivent but inserted at base of nonadelphous stamen tube, the filaments free only at apex. Calyx-tube truncate with slightly denticulate border, sometimes split down one side, but this due to pressure & growth! Corolla actually united at very base. No. 1814.
— Capt. Messenger says Nyethia is used here as a blood-purifier.
— probably N. helenioides, at least minutely tomentose.

May 15, 1902.

- Lathyrus Nevadensis (?), no 1781, climbing over bushes, raceme compact & flowers "stubby", the keel saccate through the tip turned upward so and banner very short but fairly broad; corolla dull white, banner purple-veined at middle, the whole fading dirty yellowish-white; 3 lower calyx-teeth long, the upper very short and turned in or inflexed over the notch.
- Scrophularia Calif. in Bl.
- Sonchus asper " "
- Ceanothus cuneatus Nutt.
- Adenostoma fascic — 7 ft. high.
- Quercus Dougl, Wislz, chrysol. & eobalt.

"tall lilies rose against the benign sky to feed the glances of a dreamer"
— Booth Tarkington

Gwin Mine

Calaveras Co.
1100 ft.

- Lupinus densiflorus - fls. yellow or dull white
- Lotus glaber - not in fl.

No. 1786. Allium peninsulare Lemmon. Flowers Purple; segments oblong-lanceolate, the inner 1/4 shorter than the outer; ovary not conspicuously crested. - wooded hillsides.

- Sisymbrium - Hedge Mustard
- Gamplocarpus cordifolius, just coming into fl.

No. 1792. Astragalus nigrescens Nutt. (A. gambelli Sheld.).
No. 1793 Linanthus ciliatus Greene.
No. 1794. ~~Hoofera~~ Triteleia hyacinthina Klze
No. 1795. Achyrachaena mollis.
No. 1796. Arctostaphylos manzanita PONT
No. 1797. Mimulus subsecundus var. viscidus (Cong.) Rau: Rel. Ab. (Minasus) - Open hillsides. See p. 145.
No. 1798 Oenothera albopurpurea - Open hillsides
No. 1799. Trifolium. - Open hillsides.

May 17, 1902.

- Diplacus glutinosus "always in twins", (the fls.) says Capt. Messenger. Catch a wild cat it! (No. 1763). Wild Flower Preservation Soc. please note!
- Indian turnip = Man Root - "some people grind up the root and mix it with whiskey, for chills and fever. They say it'd kill the devil. I should think it would!" - Capt. Messenger.
- Indian Bells = Calochortus (albus) - acc. Capt. Messenger. (No. 1803).
- Sanicula tuberosa = Koon - Indian name. - Calaveras Co - aborigines ate the roots. (No. 1805)
- Streptanthus suffrutescens Greene On rocky points - Biennial, !!!! Stamens all distinct. Calyx lavender-tinged. Petals dull white, veined with purple. See no. 1807. annual & biennial Collected as well as biennial!

Gwin Mine

Calaveras Co.

1100 ft.

- Hordeum laxa, sheep run along and eat it off, leaving the high grass; very fond of it, acc. to Capt. Messenger.
- Digger Pine, 4 circles of cones still on trees, fall mostly 4 or 5th year. Squirrels fond of taking off the half-grown cones, cut them, fall to ground, drag them to foot of tree, and leave a pile of scales behind after their feastings.

- The only common oak here is Quercus Wislizenii. californica
- Styrax, is quite abundant on the east cañon side.
- Rhamnus crocea - not in fl.
- Yellow Pine - a few second-growth trees near the Compressor.

May 17, 1902

- Digger Pine - nearly all first growth cut away - used for wood for engines at Gwin Mine.
- Heteromeles arbutifolia, not fl.
- Umbellularia Californica " "
- Populus Fremonti " "
  one or two trees noted.

- Rhus diversiloba - noted shrubs 12 to 13 ft. high on road to Valley Springs.

No. 1800. Grass. Briza minor ? Open glades in woods.
No. 1801. Trifolium ciliatum Nutt. = T. ciliolatum Benth.
No. 1802. Sidalcea diplosoccypha. No! = S. hartwegii Gray.
No. 1803. ~~Calochortus~~ Lupinus nanus Dougl.
No. 1804. ~~Plagiobothrys~~ Nothobulbus Gray. — Open hilltop.
No. 1805. Sanicula tuberosa Torr.
No. 1806. Trianthus montanus Greene.
Spot at base of each lobe conspicuous.
= S. tortuosus Kell. var. optatus Kell.
See prev. p. 135
No. 1807. Streptanthus suffrutescens Greene. Biennial! Stamens distinct
Seedlings noted?

Calaveras Co
1100 ft.

Gwin Mine

May 17.

No. 1808. Eriogonum foliosum Nutt. On rocks of Inspiration Point, over-looking the Mokelumne River.

No. 1809. Lolium micranthum Bth.

No. 1810. Cotyledon. Listh #1808 See p. 130.

No. 1811. Orthocarpus purpurascens Benth. guttatus DC.

No. 1812. Mimulus Abant springs on wooded hillsides. Det. A. L. G. Micropus californicus H. & A.

No. 1813. Gnaphalium. Open hillsides. guttatus DC. — Det. A. L. G.

No. 1814. Mimulus wooded hills

No. 1815. Galium (Called "Scratch Grass" by Capt. Messenger.

No. 1816. Umbelliferæ. Listh #1808. *

No. 1817. " woods. Torilis nodosa Gaertn.

No. 1818. Achillaea (Millef.) borealis calif.

No. 1819. Stigrax californica. See notes back a few pp. p. 132.

No. 1819a. Collinsia bicolor Benth.

* Peucedanum marginatum Bth.

May 18, 1902

I have been speculating in my mind how better to bring out principles in my Botany 3 class. It is so easy to put material before students and get good descriptions but it is not so easy for them to gather together their fact and formulate principles. Dr. Robinson told me that he regarded phaenogamic botany as poor for under-graduate work, but I think the difficulties can be overcome by experience. I review principles frequently and have a grand review at the end of the term. Contrasts are good to bring out principles of classification; especially analogies as opposed to homologies. So many people recognize the leaf of Thalictrum as umbelliferous! Where botanical experience is limited

— June 15, 1902

Clements. Alt. 134ft.

- Chenopodium Californicum, in ff
- Marrubium vulgare, in fl.
- Eryngium Vaseyi - same as at Little Oak.
- Bodkinia grandiflora Sm. Fls. in bud erect, then drooping, then in fl. fruit. See No. 1822.
- Asclepias Californica*, No. 1823c. flowers at first dull white, changing to light yellow; the sepals closing over the flower after anthesis; hoods truncate, the short blunt horns mere solid processes which are scarcely exserted. not at all incurved.

Noticed flies on the flowers, one had his middle legs

* not so. = A. vestita not A!!

May 18, 1902.

loaded each with a pollen "saddle-bag", which seemed to discommode him somewhat in his peregrinations; another fly had each middle leg stuck fast in a pollen slit and did not seem to be able to extricate himself although he made desperate efforts.

- The north wind is blowing the meanest sort of a gale and I had to force myself to stop off at this little place and look over the country and get a line on the vegetation. It is closely farmed - this country - and so there really isn't much to be found - my eyes are nearly put out with dust.

Clements. Alt. 134 ft.

- This place is 115 miles from San Francisco, 134 ft. elevation; located in the Valley Springs branch of the S.P. There are two hills here but the foothills proper are some 6 or 7 miles up. There is a fine grove of Quercus Wislizenii back of the village on the bench of the river; the trees are rather close set but not so very large. In the open are scattered plants of Asclepias californica* - stems ascending or sprawling.

* = A. vestita H. & A.! See p. 140.

San Joaquin Co.

May 18, 1902.

No. 1820. Wyethia helenioides (DC.) Nutt.

No. 1821. Eschscholtzia californica Cham. var. crocea Jeps. Annual - at least 2 plants but 1 yr. old. Flowers very large for annual. Specimens rank, 2/3 larger sometimes than specimens taken and with numerous stems from the base. = Brodiaea grandiflora Sm.

No. 1822. Hookera Torreyi open. Dry hillside. See p. 140. Merriam

No. 1823. Calandrinia wheat fields.

No. 1823A. Vicia sativa L. " "

No. 1823B. Amsinckia - very rank in wheat fields - 3 to 4½ ft. high

No. 1823C. Asclepias vestita H. & A. See Navarretia leucocephala Nutt. 3 pp.

No. 1823D. Salsola - drouthy out places in wheat fields. See p. 143.

No. 1823E. Pogogyne " " " " " "

Douglasii Benth.

Mr. Goddard tells me that Holodiscus discolor is used by Round Valley Indians to make their gambling sticks. The best Hupa arrows are made from Philadelphus.

Hall's Sugar Pine specimens from San Jacinto Mt - leaves 2-2½ in. long.

Berkeley, May, 1902.

– Some one who knew Gray jocosely remarked to me a few days ago that he cared not name a fresh plant!

– Miss Lemmon says the Cottonwood in Arizona keeps its leaves all winter.

– Our friend H.T.A. Hus, student of the algae, and other things loves a story. Said he: a squirrel of the wildest sort translated Latin "bull into ox and the prof. responded: "Well, you altered that bull mighty quick!". Which I admit is rid- bad.

– Mr. Tracy says Mitchell Willow flowers at Christmas at Eureka and that the pods are ripe before the leaves appear.

– Knob-cone Pine – cones on main shaft and secondary branches

Memoranda for Humboldt

– S.P. Edeline, 1913 Second st., Eureka, interested in the Botany and Geology.

– Libocedrus, "s. borders Mendocino southward" – Sargent.

– Thuja gigantea (Canoe Cedar) – s. to Mendocino – Sarg

– Cupressus Lawsoniana, s. to Klamath mouth

– "Humboldt pine" used for ship-building in Humboldt Bay, – "Home of the Redwood"

Humboldt Co – 2,224,000 acres,

1,000,000 = forest, 438,000 = redwood.

320,000 pine, spruce, fir. Balance = oak, laurel, madrone, etc" – L.C.

– Oenothera micrantha Hornem. var. jonesii Jepson. No. 1798. See p. 134.

– Navarretia leucocephala Bth. See p. 143.

– Nemophila heterophylla F. & M. Cont. from p. 131, no. 1785.

Ukiah.

- Abies rhombifolia, 95-100 ft. high. - Gibson Creek - several trees noted that were 55-60 ft. to first limb.
- Mr. Purdy says no redwood crosses Russian River at Healdsburg where the river turns west it crosses eastward. At one place northward it goes right down to the Russian bed but does not cross. No tanbark east. Douglas Spruce & Torreya in mts eastward as well as Eastward. Cottonwood Salix sp. Eloeodale & Ukiah in river bed.

- Amsinckia intermedia F. & M. Cont. from bottom p. 156. No. 1825a.

June 10, 1902

- Lots of tan bark stripped from Tan Oak Ukiah. Mr. Purdy says it is the most awful example of the destruction of a fine tree that he has ever seen. Bark taken off the main trunk and main limbs but no more, the whole tree left to rot. It is a valuable wood too, if properly seasoned, it is strong, it is durable, it has a fine grain. No one has yet attempted to treat it properly. The destruction of these trees is a great calamity to the hardwood interests of the state.

Ukiah

- Mr. Barrett wants names of the 3-sided "tubs" of the Ukiah region.
- Mr. Perredes* wants to know about Rhamnus in stiff clays.
- Mr. Barret says Umbellularia nuts were roasted by Ukiah Indians; edible, as sweet as chestnuts; he likes them.
- Castanopsis chrysophylla nuts edible; C. sempervirens not, acc. Colonel La Motte of the Fish Hatchery. Fruit trees of the latter typed Willits.
- Mr. W. P. Thomas, Ukiah, (a lawyer) has handled more tan-bark than any one elsewhere.

Mr. Pierre E. F. Perredes, F. L. S.,
29 Northwood Road, Harent Hill,
London, S. E. England.

June 11, 1902.

- Mr. Purdy says there are redwoods in all deep canons between Ukiah and Geyserville.
- The Ukiah Valley is an ancient lake acc. to Purdy; the high lands of the valley, the gravelly clays were formed by the mantle of streams depositing in the lake bed.
- Note the thickness of the tan oak bark, especially in reference to diameter of trunk. (Pasania densiflora)
- Psoralea macrostachya roots used by Ukiahs for tough fibre. Used native grape* for all binding. Mrs. Barrett says it is hard to dig out. This ament my remark on the peaunt "Leather Root" of the Sacramento River (some sp.).

*=Vitis californica Bth.

Ukiah

Mr. Stitt, dealer in tan oak bark, Ukiah handles from 500 to 3000 cords a year. He pays $12:00 this year; last year $14:00; has paid as high as $18:00, as low as $8:00. A cord is 2400 pounds! Sells by weight! There is no reason why it should not sell by the ton, but custom has made it this way. Mr. Stitt thinks the tan oak will run out in less than 25 or 30 years or about that time. The trees are cut and do not sprout from the butt base. If the cutting is far from the rail road the tree is left on the ground. If near means of transportation it is cut into cordwood. This cordwood is sold in Ukiah

June 11, 1902.

this year at $5 1/2 per cord. It has sold as high as $8.00 The cord is a single tier 8 ft. long 4 ft. wide and 4 ft. high. A Sherwood cord in California is 8 ft. long and two tiers wide one, whether the tiers are 14, 18, 20, or 24 in long — just as they happen to cut it. The cutter can and does cut it any length. Cordwood sells in Ukiah for $4:00 a card; this is ordinary oak — Black Oak is cut - one of the species used. Black Oak is better for house fuel than Tan Oak but Tan Oak [lived] brings a higher price in San Francisco because it is wanted for particular purposes. Have [illegible]

Ukiah

not seen the little wood fires built in the centre of Chinese stores in San Francisco? These fires are made from Tan Oak. The Oak is split by the Chinese into small short sticks. The wood gives out little smoke. The U.S. Mint at San Francisco also uses the wood for particular purposes in its furnaces as in certain furnaces.

The bark of the Tan Oak is very thick; it would seem that a small layer might be left which would save the tree.

The bark can be removed only at a certain season - it

June 11, 1902

sticks too tightly to get it off at any other time.

- Madrona leaves - old ones - now getting yellow and preparing to fall.

- Mr. Pervis (de) says that in the Eureka region the Rhamnus Purshiana berries are half-grown, while Rhamnus californica (at the point where it comes in) is not yet in flower.

- Left Ukiah June 11 at 9:10 and camped at 7:15 in Usaka Valley -- where a little stream of pure cold water crossed the road - about 1 mile this side of the Walker Ranch House. Got off the next am at 10.30, having to pack wagon for first time.

Ukiah to Walker Valley.

- Coming into the high mountains or, rather, high hills with mountains beyond there the oak timber on the highest slopes is very fine. Quercus Garryana, surely it must be that, 100 ft. high with very wide spreading and very tortuous branches. Standing on the hillsides and looking at them from the grades across the cañon they present a very fine appearance.
- Sambucus glauca - 20 ft. high
- The doctrine of the red-brown hills of June, the scattered oaks and the round-topped trees or against pine scenery is one that appeals to me.
- Asclepias mexicana Dec.
- a fine growth of Vicia sativa 3 ft. h at our camp the most I ever saw.

June 12, 1902

- Purdy says the liliaceous plants are increasing with cultivation
- the fires give the Lilies a chance in the forest & chaparral
- the eating out or grazing of the high grasses give the Calochorti etc a better chance.
- Walker Valley camp - 14 mi. from Ukiah.
- Tan Oak comes in 4 or 5 mi. west of Walker Valley. Redwood 1 mi. west. Tan Oak is cut by the day, the cutters being paid $4 or $5 per mo. They average 1½ cords a day. The cutters are "found."
- Fine tree of Yellow Pine in Walker Valley - but scattering timber.
- First Yellow Pine seen about 4 miles back of Walker Ranch

Walker Valley to
Mendocino Co.

No. 1824. Ceanothus integerrimus H.&A. var. californicus (Kell.) Benson
Bushes 5'-6 ft. high. Came in first a few miles south of Walker Valley. (Grade N. of Walker. Val. Fls. white.
- Douglas Spruce across road. Felled end, 3 ft 9 in diam. 130 rings counted on 2 ft 2 in radius.
Cross-sect 20 ft. from base.
Douglas Spruce all way from Ukiah.
Also Black Oak.
- Resident calls Valley Oak = Swamp Oak (Big-leaf)
On summit / Maple, Hazel, Tan Oak (60 ft. h.).
Madrona on summit - 12 ft 2 in trunk circ. at 3 ft - smallest part. - 75 ft. h.
No. 1825. Quercus Garryana - hill a mile or so south of Willits
No. 1825a. Ceanothus Douglasiana H.&A. Det. McBride. See p. 146.
- All following this on Eel River basin.

Willits, June 12, 1902

No. 1826. Dodecatheon Jeffreyi / Corolla reflexed & elegans Gray. and hairy with campanulate tube for widely diverging upper lobes; lower lip curved upwards, the lobes spreading merely as ascending; corolla pale blue, veiny. The white field of the lower lip indistinct or in some cases fairly distinct enough sometimes as to border but not as to color; style with hooked anther. - Dry vernal pool.

No. 1827. Allocarya / = A. cuspicken Greene californica Greene. With 1826. var. vallicola Jepson.
- Quercus lobata, in centre of road near Willits - took picture - 14 ft. 4 in. at 4½ ft. Mr. Goddard went up on hillside to get altitude. This tree is in front of Bechtel Ranch house, and near barn which is on opposite side of road. 9 also took picture.

Walker Valley to
(Mendocino Co.)

near Walker Valley → Ridgewood

- Coming down from summit into valley about Willits one has a fine view of Sanhedrin - the peak in the centre - the long ridge north at little less altitude - little variation in its height until breaking off suddenly. Similarly to the South only not so long. It is the most prominent mountain mass to be seen from this point.
- Quercus lobata, in field, 50 ft. from road on west side, near Willits, 22 ft. at 5 ft. The base is broad and would measure ½ more. The tree is near a newly built pine cottage, south side of town. About 100 ft. high.
- Willits is in Little Lake valley

Willits, June 12, 1902.

- Tan Oaks, near Hawley School, Beyond Willits, trees forming at that point numerous part of forest, 60–80 ft. high clean branched. One 85 ft. high has a clean straight trunk for 55 ft. In all case here the trunk is excurrent and trees pine like. or possibly 100 ft.
- Chestnut (Castanopsis ?) in school yard - tree 100 ft. high, trunk 13 ft 2 in at 5 ft. or possibly 115 ft.
Mr. Goddard photographed this.
Bark strongly fissured longitudinally.
- From the summits one looks down on hills, forests of Black Oak, scattered oak here & there, Madrone among the Black Oak fine trees of it, also Valley Oak a good deal Thin Yellow Pine forests covering the ridges and a little Douglas Spruce ~~not long~~. Coast Redwood

Mendocino Co.

Hawley School.

-Prof Jepson photographed detail of trunk of Chestnut mentioned on previous page. Also a live oak in school yard, 16 ft. 2 in at 4 ft. Tan Oak = 100 ft. high or nearly.

- Tan Oak, bark dark gray, rather regularly but not deeply checked, the small plates more or less white-spotted. In this tan oak forest there is Madrone, Douglas Spruce, Redwood

A Redwood measured 30 ft 8 at 5½ ft. = 175 ft high. This Redwood is just over 5 chains

- The Chestnut mentioned on previous page is one of two in school yard. The one photo is 10 feet 8 in 28 ft. high.

No. 1827a. Iris. Flowers yellow. D. macrosiphon

No. 1828. Chestnut = From photograph kindly loaned Castanopsis chrysophylla.

June 12, 1902

Fine Madrones from Hawley School to Sherwood Valley; 80 ft. high and often as broad as broader in the top. Some have the trunk divided into 3 or 4 great wide-spreading arms a few feet above the ground with quite the habit of an oak. Sometimes one sees them in the forest through a screen of Black Oak boughs. This is a beautiful sight and exceedingly enlivening. As holiday makers the Madrona's certainly live up to Bret Harte's idealization in his "Robin Hood" poem. The Black Oak is now so very bright foliaged, it here on its Sunday best in June, and through its airy top, beyond, shine

Mendocino Co.

Hawley School

the red branches of the Madrona the tips foliaged with its glossy leaves.

– I would that I were able to preach the gospel of the low foothill and valley scenery of California, as against the pine woods of the Sierras, beautiful as is the latter. Pine woods are elsewhere but where else may one find our brown or in spring evanescent-green-tinted and flower-strewn hills. I never tire of looking at the hills at this season. They are beautiful in a way that the heart knows but the head cannot describe. They are just turning brown – that rich red-brown – running

June 12, 1902

into dead-brown here and lighter or darker shades of green there – but mostly varying shades of the rich red-brown. The contrast is furnished by the dark green foliage of the oaks. The oaks and madrnas and small shrubs such as Rhamnus, Poison Oak, and Manzanita are scattered about here and there, singly or in clumps or in small patches of woods with the clear grassy open or slopes or glades between. Where the hills are higher the tops are gaurded by lines of pines, running here and there into solid woods, especially in the north slopes and taking in Douglas Spruce.

Mendocino Co.

Hawley School

We climb out of a valley and go up among the hills, then down into another little or larger valley; from the summit one has the view spoken of a few pp back. It is a most satisfying view to look down into the valleys on the great valley oaks. - no two trees alike, but all towering high and looking grand. Little Lake valley seems to be very full of fine specimens of this sp. quite as fine as those I measured. The limbs, especially in the top are very mossy, at least now, and the architecture is more strongly marked than in our oaks in the Sacramento valley; so the imagination fairly revels in these

June 12, 1902

fine trees until quite satiated. The trees win out in the contest.

- The teacher at the Hawley School is a Mrs. Emg. I inquired the name of the school in order to locate the fine giant Chestnut which stood in the yard in front of the school. The trunk is distinctive on account of its long furrowed ridges. But the teacher had never noticed the tree - yet when I called her attention to it she seemed a bit interested in it and was a bit ashamed for I could easily read the apologetic tone in what she said afterwards.

We camped tonight in the lower end of Sherwood. The hills are mostly green here and we passed a cold and uncomfortable night.

Sherwood Valley

Mendocino Co.

– This morning a queer one-horse outfit came along – one man in it, obviously a curio. He was clean but poorly dressed – and had a double visor cap on. His conversation ran like this: I graduated at Harvard in 1862, came to California in 1864; have had health. Got this outfit in St. Louis. Want to Florida, up through the Carolinas, Virginia, Chicago, Denver, Los Angeles. Have been up to Eureka every year from L.A. for 10 yrs. Prospecting oil and gold. Went into a house back near Cahto. Woman offered loaf of bread for 10 c.; drunken husband obscenely wanted 25¢. I came out and climbed back in wagon. He slyly followed and struck me

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a fearful blow on the arm with a 10-ft club. I reached for my pistol and then saw his wife struggling with him for the club. When he saw pistol he sneaked to horse. Now, young man, was not that a cruel thing to do? Good-day. And he pulled the reins and his old nag started him along his curious way. I deemed sotto that he was harmlessly insane.

As he came along I was examining plants

– Microseris acuminata
– Orthocarpus faucibarbatus Gray.
– Trifolium microdon H. & A. (Cf. no. 1836.)
– Trifolium variegatum, form of

} Some people doubtless think I am a curio – but most understand the nature of our work.

In Botany 3, I make out a list of the hard woods in Rosaceæ with comments. It ought to prove interesting as a point economic.

No. 1829. Scutellaria ~~antirrhinoides~~ See note ahead, p. 170 purpille

No. 1830. Vicia ~~Americana var. truncata~~ Running rootstock. Flowers purple and blue.

See p. 28a

Sherwood Valley.

Mendocino Co.

– As I go about the country I am more and more minded to take up a treatise on the plant geography of the state. The general areas such as the Sonoma formation, the great plains formation, the foot hills, the North Coast Range hills, the Pine Zone of the Sierras, the alpine zone, the alkali formation, the desert formation, the South coast Range area – all these should receive general attention. And then there are local communities which are very interesting as the spring pools when dried out, the stiff clays, gravelly clays and the habits of plants on the drier hills especially, as the Microseris acuminata which

June 13, 1902.

grows here – and has lost or nearly lost its basal rosette. So many species lose their foliage leaves when flowering begins.

– Ever since leaving Walker Valley we have been passing a good many trees of Quercus Garryana, all told, but only 1, 2, or 3, here and there. They are to be distinguished from lobata by the sinus which is not so open (and is usually deeper?); by the shiny upper surface of the leaf, glassy in the sun as you turn the leaf, and looking as if varnished (this the best mark as you view the tree); by the semi-leathery texture (twice as thick as in Q. lobata); by the darker green of the upper surface, and the darker under surface.

Sherwood Valley

(Mendocino Co.)

Cont:
- Scutellaria, no. 1829. Fls. blue, the middle lobe of lower lip with a white spot thickly sprinkled with blue dots; lower pair of stamens inserted at summit of tube, longer than upper pair which are inserted in throat half-way to upper lip. Cont. p. 187.
- Oenothera ovata, nutt. meadow, past fl.
- Taxus brevifolia, in and near Sherwood Valley
- Juvenga, Ukiah (Purdy) to near Sherwood V.
- We have seen a great many fine Madrona trees, especially on the hills and along the ridge between Willits and Ross's Station. How rarely they stand erect but not so far from Ross's Station I saw a a straight tall one 50 ft. high, a beautifully symmetrical tree.
- No. 1831. Orthocarpus faucibarbatus, gray. wet meadows
- No. 1832. Linanthus bicolor = higher land on edge of valley
- No. 1833. Gnaphalium # (running up to rocky hill

S. antivertimoides Br.

S. antivertimoides Br.

June 13, 1902.

- Cattle King White of Round Valley is dead. There is quite a notice in S.F. Bulletin for June 10. Colonel La Motte told us something of the long-standing feud of Round Valley, the stealing of cattle. One of White's rivals was a man by the name of ; his wife stole a cow which had a dew-lap, in which the owner had put a ten-cent piece. The owner traced the cow, claimed it, the case came to trial and after much argument the complainant said: We will settle it so and so - and the defendant was bound and conviction followed.

Six about 5 leaves - 187

- Ceanothus velutinus laevigatus - Sherwood Valley.
- The Sherwood Valley meadows are yellow in places with Orthocarpus faucibarbatus, no. 1831.
- Camassia. Blue fl. in - Sherwood V.
- Nos 1829 - 1847 in Sherwood Valley field
- No. 1834. Agoseris heterophylla - dry ground, open
- No. 1835. Delphinium. Fls blue. - dry open ground D. hesperium
- No. 1836. Trifolium. - dry open ground. T. microdon H.H.
- No. 1837. Microseris acuminata. "
- No. 1838. Sidalcea - dry open ground. diplocyphla gray.

mendocino Co.

Sherwood Valley

– Mimulus (Eunanus) ?– plant has no. 1846, p. 181.
3 or 4 flowers – but 1 fl. in anthesis at a time, the others for past and semi-persistent corolla quite withered – flower very much larger than rest of plant above ground. Corolla pale crimson with a velvet-purple spot on each lobe, that on middle lobe with yellow folds below.

– Plectritis, no 1844. Corolla white with very insignificant spur. Fruit used by Indians here in their seed meal.

Nos. 1839–47. Dry open ground in field except where noted.

No. 1839. Grass. Red tops. Showy in fields. Agrostis laxiflora Hook. var. = Holcus l.

No. 1840. Orthocarpus attenuatus var.

No. 1841. Gnaphalium Microspermum Cal. Gnaphalium

No. 1842. Gratiola obtecta Benth. Gratiola ebracteata Benth. var. americana Gray

No. 1843. Grass. The solitary spikes on their long naked culms very conspicuous and striking. Fields. A grass one would not forget by reason of its slender stem. Perennial.

No. 1843 A. Madia

No. 1844. Plectritis. see note above

Nos 1845-47 see ahead

Stanley's to Cahto, June 14, 1902.

– Tan Oak, in middle road ridge from Stanley Ranch to Cahto, 15 ft at 5'-2 ft., 115 ft. high, branching at 20 ft into 3 great branches again (the erect one) above – quite wide-spreading. A madrone in road 25 ft from it. measures 12 ½ at 4½ ft.

– From Stanley's Ranch to Cahto is a never-to-be-forgotten drive. Stanley's Ranch is in Sherwood Valley near Mr. Sherwood's place. The road climbs to a ridge and then it is up and down along the ridge before one makes a big drop down into Cahto. There are fine views to east and west. West one looks over a succession of densely and continuously forested hills reaching to the coast. I judge a great deal

Stanley's Ranch to Calpella
[Stanley Ridge]

of this forest is Douglas Spruce, the proportion of Redwood increasing as one travels coastward. Along this ridge the coniferous forest is Douglas Spruce. Around hillsides and as far as Stanley School the coniferous vegetation is mainly Yellow Pine. I noticed little or no Yellow Pine along the Stanley Ridge. Here in camp a mile below Calpella (toward Laytonville) it has come in again. The Douglas Spruce forms a very permanent part of the arborescent vegetation along the Stanley Ridge, clothing north slopes especially. The hardwood trees were especially fine along this ridge. Great big Madrones, wide-spreading and tall, lent the

Mendocino Co. June 14, 1902

variety of color in buff and crimson to the woods. Quercus Garryana was frequent in its occurrence - trees 20 to 40 or possibly 50 ft. high, the very dark shining foliage very handsome and contrasting with the yellowish mossy branches. The tree in habit simulates a widely branching and rather low Douglas Oak. The trunk has a slightly fissured bark, with white smooth surface - exactly that of the Douglas Oak - But the foliage in lobation is very similar to that of the Valley Oak. I photographed a fine isolated Douglas Spruce - the tree very broad in account of the isolation (Spool 1, No 8. The largest Tan Oak which I have seen was in this ridge (see 2 pp. back). Tan Oak was frequent and also large

Stanley's Ranch to Cahto.

[Stanley Ridge]

trees of Umbellularia. Also fine Black Oak. I do not remember that I saw any Valley Oak - the elevation must have been 3000 or 3500 ft. It was cold (altho beautiful and sunny) and Madrono was just in flower and Buckeye in bud. Beautiful indigenerinus was here in full fl. + Ceanothus velutinus var. laevigatus was noticed once (in fl.). Ash was rather scattering. (Back on the road, not far from Rose Station, I saw an Ash which must have been 100 ft high. It grew in a deep shady stream canon.)

The views both far and near were splendid. This is the month to travel, for the valleys and canons have not filled with smoke from the forest fires.

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Down into the hill-filled basin of the Eel and far across to the heights of South Yolla Bolly and Mt. Linn (Snow) - that was our outlook northeastward or E.N.E.); we ended by at the hollow of Round Valley, while in front of us eastward loomed the imposing mass of Sanhedrin. Behind Sanhedrini shoulders appeared here and there the high peaks and ridges from Snow Hall Mts. to a sharp peak northward which I guessed to be Sheet Iron or St. Johns. Westward we fancied we saw the ocean; it was certainly very near. — The near views! Again — Imagine the south slopes, gullied, scattered with clumps of oak and manzanita, guarded above and behind by Browning Douglas Spruce - but above

Stanley's Ranch to Cahto, Mendocino Co.

all the grassy opens - now ripe in its reddish-brown - ah that were so fair to look upon that I would never tire of looking and fancy I might stay here always. This were very near to a Forest of Arden! Ah, the richness of the garryana, the outspoken color-joy of the Madrona, the lightness of the foliage on the slender branchlets of the Black Oak. Kellogg came to this region long ago. How the place must have fed his spiritual nature. Unluckily Kellogg in his writings on the California Trees rarely gives to any of his descriptions a local habitation although exalting the trees with all the fervency of his mystic

June 14, 1902.

and religious soul.

Kellogg was a guest of Joseph Clark. The Clark brothers have two ranches a short distance west of Cahto on the road to Westport, or near the road.

Cahto is a clean-looking hamlet at the foot of a forested hill with an open valley in front (South).

- How kind people are. One man in driving past saw us hesitate and called: "Can I do anything? Looking for a place to camp?" This happened a second time. Again a man stopped and offered us buttermilk. It is true he had a wagon-load of it but he need not have done it. These people have learned the secret of happiness.

- This country we are now going through has many abandoned farms -

Stanley's Ranch to
(Mendocino Co.)

but the country will be given new life by the extension of the railroad from Ukiah to Willits, now completed. The population is very small, but the region is capable of supporting a great population. The soil is fertile; there is running water everywhere and an abundance of timber. I am going to predict that in ten years this county will have a population of 100,000; it will certainly have that in 15 years. It has now but 10 or 15,000 I believe. No one has ever heard of this region - except as a happy hunting ground - it has never had a boom - but when travel and emigration it once directed this way there will be a wonderful development.

Ukiah, June 14, 1902.

The country is too beautiful and the climate too fine to escape notice. "For the land is a land of hills and valleys, and the mountains shall bring peace to the people." - Populus trichocarpa, single tree noticed along stream near Ukiah.

Those belong back a few pp. (T. variegatum Nutt.)

No. 1845. Trifolium - wet places. Latium Nutt.

See 172. Mimulus angustatus Gray. Det. A.L.G.

No. 1846. Lunarius - dry rum in field.

No. 1847. Cirsium / All 3 nos in Sherwood valley.

Quercus Wislizenii quercetorum

- Addenda to King White's leaves back (p. 171): Yackie John was by common consent White's partner in Round Valley. Yackie John thought he owned ½ the property because White gave it to him (to cover up some dark deed, as a murder, acc. to common report), but White took care not to place the gift on record, and when Yackie was killed - no one knew how - White was said to be glad - and anyway there were no deeds to show Yackie's title to property. - Colonel Smith

Calto (School-house Creek)
(Mendocino Co.)

Madia exigua, no. . Rays 5–7, 2-lobed (but sometimes – altho rarely maybe – a 3-lobed one in the same head). Only one disk-flower, this with shallowly 4-lobed corolla. Bed terrace (Perfect,) of stream below Calto.

The Redwood Flora

The moment we hit the edge of the Redwood Belt (Rawley's school) in came the Redwood region plants: Ribes divaricatum
Rubus parviflorus
Corylus rostrata
Asarum caudatum
Trientalis Europaea
Tellima grandiflora
Dicentra formosa
Rosa gymnocarpa
Ribes divaricatum
Vancouveria.

The Redwoods came in 3 or 4 mi. west of our camp on School-house Creek one mile below Calto. All the above were observed at School-house Creek and some at Rawley's School.

June 14, 1902.

A small boy tells me that they cut a good deal of "Tan Oak" in the Redwoods 12 mi. west of here". This goes out to West port – acc. to an old half-breed Mexican Indian who came along half-drunk (and who says it sells for 5½ per cord).

– Mr. Goddard brought in: Amelanchier alnifolia; Symphoricarpos racemosus, Quercus chrysolepis (a fine tree near ranchería – Mr. G. will take a picture tomorrow –
Cornus Nuttallii,* Hookera congesta.

nos. 1848–52 — at Camp 1 mi. below Calto.

No. 1848. Asarum caudatum. One fl. with 2-lobed calyx. By spring
No. 1849. Nemophila parviflora. Shade of oak woods. Seeds = salmon pink
No. 1850. Petasites. Shady steep bank by water of stream.
No. 1851. Rubus leucodermis Dougl.
No. 1852. Alnus rhombifolia Nutt.
No. 1853. Silene Hookeri. Petals pink, the limb deeply cleft into 4 linear lobes, the lobes entire or toothed. Appendages conspicuous, only the very tip free, this tip either notched or entire. (Lateral lobes usually entire, middle ones notched or cleft.) (5 petals) Capsule globose-ovate. (Beautiful plant – "I clipped instantly and picked it" – P.S.G. Grabs in woods.

* Also a shrub of it observed between Rawley's School and Sherwood Valley.

Cahto (School-house Creek).

No. 1854. Fragaria californica C. & S. } woods of spruce, oak etc

No. 1855. Linanthus androsaceus Greene. } Open woods.

No. 1856. Collomia heterophylla Hook. } woods. Fls. pale pink

No. 1857. Galium californicum H. & A.

No. 1858. Nemophila heterophylla Fl. & M. } A. with large flowers typical of Napa Valley & Yuca Valley foothills. B. Same C. Small flowers, the corolla tubular-campanulate; I can see that it might be said to approximate "salverform". And yet one can see it is like the corolla of A & B. These are so much larger; still the tube is a bit more open and the limb very much broader. Shade of Black Oak and Yellow Pine.

No. 1859. Psilocarphus oregonus Nutt. } Grain field

No. 1860. Open dry ground. Composite.

No. 1861. Verbascum Thapsus L. } Sub-basal leaves.

(Mendocino Co.) June 15, 1902.

— An intelligent boy gives me the following about Tan Oak: Do not peel about here, too far to haull it. More common towards the coast. Peeling now in Jackson Valley 10 miles from here. Considerable quantities peeled there. Pay $35 or 40 & 50 per mo. for peeling. Do not take off bark more ½ in. in thickness. Bark is cut into 4 ft. lengths; the ringed every 4 ft. Taken off in 2 or 4 pieces. Thick bark peels more easily than thin bark. It's hard and hot work peeling bark. (It's the hardest work there is injected, another hand.) No, it isn't; you are doing differt things. It's not like sticking to one thing steady and never changing. You cut down, a you ring, and you peel. This bark is baled to Westport but mostly to

(Cahto.)
Mendocino Co.

School-house Creek.

Ft. Bragg. There is more bark stripped from Ft. Bragg because last port has a very poor port. Not easy to land groceries and provisions there. Got to cut off the limbs before you peel. Yes, they cut down the tree. No, they do not save the wood. It just lies there. It's good wood too. What for? For burning. Better than Black Oak. Very small tree, take off one length and leave it standing.

Mr. Goddard took picture of Yellow Pine in vale near School-house on School-house Creek (Cahto) – 3 pines with Black Oak at base and other Yellow Pines in background. Trees 140 ft. high.

Firecracker in fl. – woods (Brickaia ida-maia)

June 15, 1902.

Observed the following at School-house Creek:

Potentilla glandulosa.	Verbena prostrata
Euphorbia leptocera.	Rhus diversiloba
Pseudotsuga taxifolia.	Rhamnus californica
Pinus ponderosa.	Umbellularia californica
Polygala californica.	Quercus Californica.
Brunella vulgaris. Nutt.	Aquilegia truncata
Hookera laxa	Circaea Pacifica
Boykinia elata	Achyrachaena mollis
Vancouveria	Clarkia rhomboidea but not pulchella
Quercus Garryana	Quercus lobata in valley near Cahto School

– Cont. from p. 170. No. 1829. This species is Scutellaria antirrhinoides Bth.

No. 1862. Lathyrus Torreyi Gray. Banner pale lilac; wings & keel white! One-half plant taken. Woods. Cahto.

Calito School (Mendocino Co.)

-One man owns most of the country between Stanley's & Calito and another one towards Laytonville - as one man told me there is a tendency to gobble the land into big tracts. Some small boys told us of the trials of the range owners with hunters - vicious men who set fire to the ranges because being forbidden to hunt deer or for prosecution for killing out of season.

- There is a great deal of travel on the Calito road - there was a continual stream of people horseback, in buggies, carts, wagons, teams going past.

- No matter how mean & poor the surroundings - but see the bicycle in the shade of the rickety porch!

Jackson Valley, June 16, 1902

Came west on the Westport road (9 mi. from Calito to look at Tan Oak peeling. Have heard of 3 tan oak camps hereabouts. No more peeling until you get near the coast acc to one man. Near Hann's Mill the peel large and small - down to 1/4 in. The trees are sometimes left standing. This is nearly always the case when the trees are small. The first 4. length is taken off the standing tree in order to save the part on the butt. The first length is taken from the surface of the ground. This doubtless prevents sprouting. I have noticed that the tan oak when cut off 3 or 6 in above the ground will sprout when it is a small trunk - 3 or 5 in. at least

(Jackson Valley)

Harris Mill (Mendocino Co.).

Trees examined that had been peeled:
Tree No. 1. Pole tree 26 ft. high, 11½ in. in circumference at 1 ft. from ground. Peeled clean down to surface giving no chance for sprout I should say. Two lengths taken off and tree left standing. The lengths were 3 3/4 ft and 3 11/12 ft.
Tree No 2. Cluster of 4 trees from base of hollow stump, nothing left of the stump but a 3/4 crescent. The wood of the stump was continuous except on NE side, very plain, forming a 3/4 crescent, from which plainly the 4 ~~saplings~~ poles arose. Three of the 4 poles had been peeled, and two had been cut. The standing peeled one had the usual 2 lengths taken off. The two which had been cut were in diameter as follows: 7 3/4, 7 7/8, the ages being 48 – 50. About the base of the unpeeled one were sprouts. The felled one had each 5 lengths taken off. The peeled trees of this cluster were 35 to 40 ft. time. Photographed by Mr. Goddard.
Tree No 3 – Cluster of 3 (Picture = Skook No. 1 (10). Nine lengths taken, a branch 32 in. in circumference (at 9 in from trunk) not peeled. Peel very few more lengths from a big tree than a small. See diams of these trees in photo record. The peeled on this cluster as far down as they could but the base was very spreading

June 16, 1902.

(Jackson Val., Mendocino Co.)

Hamm's Mill

at the very surface of the ground and even before cutting had given rise to a half-circle of sprouts, some being 1¼ in. in diameter. All of these but the very smallest were cut in "swamping".

Bark 1¼-2 in. thick on butt cuts. (Measured on butt cut, Sprout 2/9)

Bark at end of final cut on pole = ¼ in. thick.

I noted a Giant Chestnut Tree 75 ft. high, brown bark or somewhat red or dull red, bark fissured into very long and narrow furrows.

Also noted Quercus Chrysolepis. Clusters of poles from old stump of Tan Oak seem to be common - like those described on previous page.

June 16, 1902.

All measurements of Tan Oak trees are exclusive of bark. As to circ. it must be determined from context.

- From observations in old sled road I should say that Tan Oak will come up from cut stump all right.

Also noted the same along grade.

- Fine specimens of Quercus Chrysolepis on cañon side - wide-spreading. Young shoots now starting and old leaves falling.
- Ditto Tan Oak.
- Tan Oak, 90 ft. high, 16 form ft. lengths taken 3 ft.
- Sometimes 22 or 23 lengths taken 3 ft! No special tool used. Try the bark with an axe to see if it be loose. They have been peeling two weeks and can peel until Aug. 15, sometimes a little later. They must quit July 15. when the bark sticks it can be heard 30 scarcely.

Woodlands Farm

(Jackson Val.)
Mendocino Co.

Hamm's Mill

No. 1863. Ceanothus, Bark very glaucous except on old trunks (incanus, T. & G.) Flowers white, very fragrant. Bushes 8–12 ft. high. Came in abundance on entering Redwood Belt

– Redwood Plants –:
Berberis nervosa (Pursh) L. Adelia triphylla.
Ceanothus no. 1863. Vaccinium ovatum Pk.
Corylus rostrata Trillium ovatum
No. 1864. Ceanothus foliosus (Parry) 2–4 ft. h. Jackson valley.

– Sugar Pine – once seen on ground!

– Fine Tan Oak specimens – tall, in Spruce Forest, 80–95 ft. h. 1½ to 3½ ft. diameter.

– Top of big Tan Oak very branchy and often not peeled although the main trunk is very thick. Easier to peel small trees.

– Quercus Garryana – bole stocky

Woodhead's Timber Claim

– In this cutting the trees are mostly large, of the best size, 80–90 ft and 14 or 15 to the acre in the best parts (Tan Oak).

– Trees 80–100 ft. high & 4 ft 6 in. circumference within 2 ft. butt excluding bark.

– Mr Goddard says that down on the Klamath they have no wagons and that they cut down a tree and haul their hay in it as a killed log.

– John Woodhead,
Branscombe P.O.,
Mendocino Co., Calif.

We went up to this farm or ranch high up on the mountain side. They are cutting a good deal of tan oak. On the way up

Jackson Valley,
Mendocino Co.

Woodhead's Ranch.

We saw a (Douglas) fir stump, 5½ ft. high, that had covered over completely. Mr. Goddard took a picture; he suggested connection with a fir tree (three feet away) by the roots. It is alive.

- Woodhead's place is wooded with Douglas Spruce, Tan Oak, & Madrone. There is Quercus Garryana in this region, sometimes pole thickets of it, but I did not see any Black Oak until we got out of the Redwood belt (nor Red Bud, as noted by Mr. Goddard). The first 3 trees are in fine form. The Tan Oaks are 100 ft. high and 8 in small at the base and holding their diameter well towards the top, making

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the most magnificent oak logs I ever saw. Both Woodhead and his wife (independently) expressed their pity that these fine trees should be left to rot on the ground. The first year the heart becomes "dozy;" the second year the whole log becomes "dozy" and is then utterly useless. He is paid for the Tan Oak $7½ per cord on the ground. It costs 2½ to cut it, leaving a profit of $5 per cord. It costs $4½ per cord to get it to the coast at Westport, (↑3½ to) where it is shipped, and it sells for $12.00 per cord.

I saw many trees (25 standing) that had been burnt; some had recovered and were sending out new

Jackson Valley
Mendocino Co.

Woodhead's Ranch.

sprouts in the middle of the top, all had clumps of sprouts about the base after the fashion of Redwood stumps. Woodhead showed me some rather old trees (75 yrs. old perhaps) forming a circle of 3 to 5 ft. about an ancient stump, now totally vanished. This is commonly to be seen. I also noticed along the grade where trees had been removed in the road-building that shoots were coming up freely. There were some fine Chestnuts — a few, one here and a giant there at long distances — and an old Indian rancheria, with several holes and larger sweat-house

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hole was pointed out to us. Woodhead showed me a tan oak that he believed was part Chestnut. It had the longitudinal fissuring of the Chestnut and narrower leaves. It was a pure tan oak, however, but I was glad that he meant to save it. So few woodsmen have the interest in trees that this man has. Wholly unlettered and rude he had observed for himself and was delighted to find that I was studying the trees. He gave up his time freely, took us to his rude house, had his wife serve us pie and milk and would not hear an idea that we were in a hurry. We had

Jackson Valley
Mendocino Co.

Woodhead's Ranch.

to eat altho it was late. The milk was good — and very refreshing. He showed us a lion skin and a catamount skin that had been killed near. They can raise apples, peaches prunes, cherries — but not apricots. A year ago the frost caught everything.

On the way home between Harris Mill and Jos. Clarks farm I saw the largest Cerasus demissa that my eyes ever viewed: 20 ft. high, trunk 1 ft 4½ in. circ. at 18 in. Another 18 ft. tall and 4½ in. circ. There was a long thicket of them, stringing along a creek. Nearby was Physocarpus (Opulaster) opulifolius.

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No. 1865 Osmaronia cerasiformis Greene drupes 2 to 5 ft. fullgrown as nearly so but green.

No. 1866. Prunus virginiana var. melanocarpa with 1864 Cerasus demissa. See description in Rev. p. 200. Jackson Valley.

No. 1867. Vancouveria. Cahto School June 17. V. hexandra Morr. & Dec.

No. 1868. Amelanchier alnifolia Nutt. Cahto School. June 17.

No. 1869. Quercus lobata. Female organs. See description of individual tree next p. 202. Long Valley. glabrata Bkr.

No. 1869a. Cornus Common in Long Valley. Fls dull white or dull white.

No. 1870. Populus trichocarpa T. & G. Long Valley. Trunks of Esl. See descrip. several pp ahead. See p. 205.

No. 1871. Ledum glandulosum Nutt. var. pacificum (Wats.) Clausen. Rocky banks, but in soil!, near Idol House.

Laytonville (Mendocino Co.)

- Oak in middle of road, 15 ft 10 in. at 4½ ft. Quercus lobata
- Quercus garryana, common high hills, out of the valleys, from Laytonville to Cummings - takes place of Q. Douglasii on inferior hills. Q. lobata in valley here and sometimes in hills.
- Tan Oak here, very conspicuous on ridges and summits - 1½-2 mi before reaching Idal House
- Phil adelphus - near Idal House.
- Oak, Valley Oak, 3½ mi. from Laytonville, east side of road, 3 roads from it, 19 ft at 4½ ft, 20½ ft. at ground. Fine trunk but not a fine top; only 70 ft. high. Bark deeply fissured on one side, the fissures 4 in. deep. My No. 1869 taken from this tree.

June 17, 1902

- Camped last night at Cahto School, having returned from a trip to Jackson Valley, 10 mi. from Cahto. This morning came to Laytonville, lower end of long valley and bought some bread and meat at the hotel. The woman who served us was of the kind described as "the finest stock of frontierswoman" She was tall and big, well proportioned, but strong like a Greek woman. Fair. Features regular and good, not perfect enough to say Grecian yet doubtless as good as many Greek woman. Her hair was gray but her face was not aged. A 5th. meat cutter would have said that she did not know how to cut meat, yet she did cut steaks for us and she knew that she could. The confident

Long Valley Mendocino Co.

way in which she handled the axe left no room for doubt, nor did the result, as bone and gristle and flesh were cut through. She appealed to me because she was a woman of moral force (if moral force means first of all self-preservation*) as well as of physical force. The average backwoods-woman or back-country woman is either a slovern, or else more commonly a pathetic sight because of overwork and poor living, and most often because her vital system is exhausted by excessive child-bearing

* moral strength against the excesses of man, too apparent in early days.

Camp in Long Valley: No tan oak since leaving Stanley Ridge. No redwood. Nine bark here: its clusters of red pods attracted attention of a young farmer who wanted it named.

June 17, 1902.

We camped for noon at a beautiful spot on the s. fork of the Eel River, having traveled through a wooded hill country with Long Valley on one side of us all the way from Laytonville. Long Valley was buttonized by Bolander thirty years ago. There was fine high grass on the river bank for our horses. There were cottonwoods on the bank 80 to 95 ft. high (Populus trichocarpa. One tree 80 ft. high had a fine trunk unbranched for 50 ft., 7 ft. 4 in at 4½ ft. and holding its girth exceedingly well upwards. This was on the bank near the entrance to the Cooper Ranch (300 yds.) Mr. Goddard photographed this trunk.

Long Valley, June 17, 1902
(Mendocino Co.)

Populus trichocarpa - all the winter buds along a young shoot develop leaves, or most of them do. Most of them continue to do this as the shoot or branch increases in thickness. The spurs are thus 6 or 7 years old and only 2 in. long, more or less. These spurs are still leafing on branches 1 in thick. They finally die and weather off or they have a chance to elongate and become a branch. I have just observed a branch 14 in. long which was a spur for 7 years before it had a chance to grow. Then it raced right out. (No. 1870)

Met red-faced burly young farmer camping at this place on the Lay. He said there were most tan oak about Usal.

Photo Record.

Spool 1. No 1 - Bechtell Oak.

No. 2. Oak - 22 ft. See note on P. fol. Bechtel oak

No 3. Outfit with oak no 2

No 4. Yellow Pine with mangaite branch at base.

No 5. Tan Oak forest, trees 60 - 90 ft high. or 100

No. 6. Garryana - tree 50 ft or 60 ft h.

No. 7. Mixed Forest of Tan Oak, Madrone, Black Oak (all 70 - 80 ft h.) and Douglas Spruce. Redwood up to 150 ft. from top of hill 1 mi. N. of Stanley Ranch in Sherwood valley, on road to Calpella.

No 8. Douglas Spruce - ridge from Stanley's to Calpella.

No 9. Tan Oak Peel, single length, stood on end.

No 12. Mt. Woodhead or Tan Oak bark.

The 3rd tree measured 20 in. diam. Age about 90 years rotten heart

← No. 10. Cluster of large trees cut or pulled. Diameter of 2 largest trees = 18 & 24 in.

No. 11. Cluster of 6 small trees from an old stump; 35 ft. high; 5 lengths taken; one poorest but not peeled

Diams = 6 down to 2 1/2 in. - inside the bark or rather without the bark.

Spool No 2.

No. 1. Young Yellow Pine Forest: trees 40 to 75 ft. high. Colute to Laytonville.

No. 2. Black Oak – main trunk leaned over (by storm?) and development of erect shoots on upper side. Colute to Laytonville.

No. 3. Valley Oak, 115 ft. high, near Laytonville

No. 4. Central road, Laytonville street, 15 ft 4 in at 4½ ft., 85 ft. high Valley Oak.

No 5. General view above Cummings near summit Black Oak, Tan Oak, Douglas Spruce, Madrone

No. 6. Fasciated "basket" in middle of Douglas Spruce 100 ft. high. The growth was dense and the branchlets of foliage seemed to be very short. On ridge from Summit above Cummings to Harris

No. 7. ~~Rocky Point, Same ridge~~.

No. 8. Redwood on flat and Eel River in front. Log jam. S. Fork

No 9. Scotia Mill

No. 10. "Home" Fortuna

No. 11.

No. 12.